The Health Reformer.

NATURE'S LAWS, GOD'S LAWS; OBEY AND LIVE.

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BIBLE HYGIENE.

BY ELD. JAMES WHITE.

THE Bible was given for the well-being of man in this life, as well as a rule by which he may attain unto immortal life. The sacred writings enter more fully and more definitely into every-day life than casual readers suppose. This fact is recognized in the earliest records where

ADAM'S BILL OF FARE

is given in these words: "Behold I have given you every herb bearing seed which is upon the face of all the earth, and every tree in the which is the fruit of a tree yielding seed; to you it shall be for meat." Gen. 1 : 29.

Adam's meat does not appear to have been the flesh of animals, such as beef, mutton, pork, turkey, chicken, goose, duck, oyster, clam, lobster, and the like; but it was made up of the wonderful variety of delicious things which grew out of the ground. These were his meat. The best authorities give the word meat, in both the Old and New Testaments, the signification it has in this first hygienic rule given to Adam. William Smith, Classical Examiner of the University of London, in his Dictionary of the Bible, says that "it does not appear that the word *meat* is used in any one instance in the Authorized Version of either the Old or New Testaments in the sense which it now almost exclusively bears of animal food. The latter is denoted uniformly by *flesh*."

The American Tract Society's Dictionary of the Holy Bible, says that "meat in the English Bible usually signifies food, and not merely flesh. Gen. 1 : 29, 30; Matt. 15 : 37. So in Luke 24 : 41; have ye here any meat? literally, anything to eat? The meat offerings of the Jews were made of flour and oil, etc. Lev. 2."

It is said of the forerunner of Christ that his meat (food) was locusts and wild honey. But we seriously call in question that opinion which gives to this prophet of God a sort of grasshopper diet. The following, which is from good authority, seems more consistent:—

"The locust was a fruit, a bean-like pod, with a seed in it similar to the *Carob*, or husk on which the prodigal son fed."—*Butterworth.* "The wild honey, a kind of gum."—*Dr. Forestall.* "Locust, *akris*, Gr., may either signify the *insect* called the *locust*, which still makes a part of the *food* in the land of Judea, or the *top of a plant.* Many eminent commentators are of the latter opinion."—*Clarke.*

Dr. M. G. Kellogg of California, while at the Missionary Rooms in New York City, obtained there some of the veritable pods which are called "locusts, or St. John's bread," and sent them to the office of the REFORMER, where they may now be seen.

The voice of inspiration, that "God is love," will be clearly recognized where his great designs are not misunderstood. He is not the author of pain and of death. In creation, the beneficent Creator did not design that the creatures of his hand should writhe in pain, and their existence close in the agonies of death. Pain and death, under which "the whole creation groaneth," are the result of transgression. Had sin not entered our world, death and pain would not have existed, a single drop of blood would not have been shed, and flesh never would have constituted any portion of the food for

man. And even after the fall, and the expulsion from Eden, so far as the Sacred Record is concerned, there is no permission given to use flesh for food till after the flood. Then the use of flesh as food became a matter of necessity.

The waters of the flood were upon the earth, and Noah was in the ark with closed doors one year and ten days. Compare Gen. 7 : 11, 12, and 8 : 14. By this time, we may safely conclude, the patriarch's stock of provisions was low. And the desolated earth could afford none until it could be produced from the seed preserved in the ark. In this state of things God said to Noah, "Every moving thing that liveth shall be meat for you, even as the green herb have I given you all things." Gen. 9 : 3. Up to this time, during a period of 1656 years, more than one-fourth of the time since creation, man's diet was that which grew out of the ground. But now, in the absence of such food, he is permitted to subsist very largely at least upon flesh until the earth should bring forth again the proper food for man.

And, certainly, judging from the Sacred Record, that was a time of remarkable good health. During the long period of 1656 years of vegetarian life, no mention is made of the sickness and death of children, of feebleness in youth, or at middle age, or of fevers, dyspepsia, gout, or consumption. All lived in the full enjoyment of health nearly one thousand years, until the springs of life stood still. Obituary notices of that time do not mention local diseases, which in our day are caused by the breaking down of certain organs of the system, while others remain strong, resulting in lingering sufferings, and agony in death. No, they mention the great length of human life and its cessation as follows :—

"And all the days that Adam lived were nine hundred and thirty years, and he died."

"And all the days of Seth were nine hundred and twelve years, and he died."

"And all the days of Enos were nine hundred and five years, and he died."

"And all the days of Cainan were nine hundred and ten years, and he died."

"And all the days of Jared were nine hundred sixty and two years, and he died."

"And all the days of Methuselah were nine hundred sixty and nine years, and he died."

Our good Bible does not record the flesh of dead animals as constituting an important part of Adam's bill of fare. In fact, it is entirely left out. As true as the book of Genesis, that first venerable gentleman, and a long line of his noble sons, who lived more than nine hundred years without either the dyspepsia or the gout, were vegetarians.

ALWAYS TOO LATE.—Some people are always too late, and therefore accomplish through life nothing worth naming. If they promise to meet you at such an hour, they are never present until thirty minutes after. No matter how important the business is, either to yourself or to them, they are just as tardy. If one of this class is to take passage by steamer or railway, he arrives just as the boat has left the wharf, or the train the station. His dinner has been waiting for him so long that the cook is out of patience. This course, the character we have described always pursues. He is never in time for church, at his place of business, at his meals, or in his bed. Persons of such habits, we cannot but despise. Always start in time, and be ready at the appointed hour. We would not give a fig for a man who is not punctual to his engagements, and who never makes up his mind to a certain course till the time is lost. Those who hang back, hesitate, and tremble—who are never at hand for a journey, to meet an appointment for business, or anything else—are poor sloths, and are ill calculated to succeed in business or get a living in this world.—*Sel.*

NEVER give up till you have exhausted every means of success. A great many things seem impossible at first sight that yield to persistent efforts. Difficulties are very like supposed ghosts at nightfall; they look terrible at a distance; but when you approach them, they prove to be a sign-post, or some other innocent white object.—*Ex.*

GENERAL ARTICLES.

A LITTLE ELBOW ROOM.

Good friend, do n't crowd so very tight,
There's room enough for two;
Keep in your mind that I 've a right
To live as well as you.
You rich and strong, I poor and weak,
But think you I presume,
When only this poor boon I ask—
A little elbow room?

'Tis such as you, the rich and strong,
If you but have the will,
Could give the weak a lift along
And help him up the hill.
But no—you jostle, crowd, and drive,
You storm, and fret, and fume;
Are you the only man alive
In want of elbow room?

But thus it is on life's round path,
Self seems the god of all;
The strong will crush the weak to death,
The big devour the small.
Far better be the rich man's hound—
A valet, serf, or groom—
Than struggle 'mid the mass around
When we've no elbow room.

Up heart, my boy, do n't mind the shocks;
Up heart, and push along!
Your skin will soon grow rough with knocks,
Your limbs with labor strong;
And there's a Hand unseen to aid,
A star to light the gloom;
Up heart, my boy, do n't be afraid,
Strike out for elbow room.

And when you see, amid the throng,
A fellow-toiler slip,
Just give him, as you pass along,
A brave and kindly grip;
Let noble deeds, though poor you be,
Your path of life illume,
And with true Christian charity
Give others elbow room.

—*Sel.*

Physiology and Hygiene.

CHAPTER II.

Chapter I. was chiefly devoted to a consideration of the human body as viewed through the microscope. This chapter will treat quite largely of the body as considered by the chemist. A chemical examination of living structures is very different from a microscopical examination, and the results of the two methods of examination are equally dissimilar. The microscope reveals the tissues as they are in life, subjecting them to no destructive process whatever; it even shows us parts in the full vigor of life and activity. Chemistry, on the other hand, deals only with dead products. It can tell us nothing of the human mechanism until it has destroyed and torn it to pieces. Chemistry and vitality are incompatible. One begins where the other ends. The most that we can expect, then, from chemistry, is a statement of the constituents of the body which are found after death, both somatic and molecular, has occurred. The results obtained by chemical analysis are very useful and interesting, however, notwithstanding the constant suspicion that they are not to be regarded as wholly trustworthy, and the evident fact that they are generally put to uses which are wholly unjustifiable, as we shall see.

PROXIMATE PRINCIPLES.

By the various means at his command, the chemist obtains from the human body nearly one hundred compounds, the most of which cannot be produced artificially. These compounds are called proximate principles, or elements. They do not exist in the body in an isolated state, but are intimately associated with each other. The most of them are unimportant, and we shall mention only a few. They are of two classes, *inorganic* and *organic*.

1. Inorganic proximate principles are those which have a definite composition, are crystallizable, and possess the properties of inorganic substances as described in chapter I. Those most commonly mentioned are water, chloride of sodium (salt), chloride of potassium, phosphate of lime, carbonates of lime, soda, and potassa, and phospates of magnesia, soda, and potassa. Of these substances, water and phosphate of lime are found in considerable quantities; but the remainder are much less abundant. All of the substances of this class are said to undergo no essential change in passing through the system, being discharged with the excretions. This is undoubtedly true when they are taken into the body in their isolated form; but whether the same is true when they are eaten as food in the vitalized form in which they are presented in fruits and vegetables, is a matter which is open to doubt. This question will be more fully discussed in considering the subject of food.

Water constitutes between two-thirds and three-fourths of the weight of the body. It is found in every solid, as well as in all the fluids, of which it is the chief constituent. Even the teeth contain so large a proportion as one-tenth of this limpid element, while two hundred parts of saliva contain one hundred and ninety-nine parts of water to one of solid matter. The brain is nearly four-fifths water, being scarcely less fluid than the blood itself.

The uses of water in the vital economy are

numerous and indispensable. It preserves the tissues in a condition of proper consistency for the performance of their several functions. Without water, the blood would thicken and cease to circulate, the tendons and muscles would stiffen and lose their flexibility and contractility, and all the vital functions would cease. Water also fills an important office in the equalization of the heat of the body, both in serving to distribute it equally through the system, and in dispersing it by evaporation when produced in too great quantities. Another very essential service is the part it plays in washing away the impurities which are constantly accumulating in the tissues.

The quantity of water which daily escapes from the body by different channels is about four and one-half pounds.

Chloride of sodium is always found in the body in small quantities, but is far more abundant in the blood and other fluids than in the solid tissues. Physiologists profess to find some use for it in regulating the absorption of fluids, basing their theory upon the fact that salt water will pass through the walls of a bladder much more slowly than pure water. The same is true of solutions of all mineral salts. The beneficial character of salt is claimed to be established by a single experiment on cattle. Other experiments have resulted entirely different. So far as the influence of salt on absorption is concerned, it would seem to hinder rather than to promote it. It is well known that saline drinks are much less readily absorbed by the stomach than pure water. Accurate experimentation has shown that all the salt taken into the body is expelled in the excretions unchanged, with the exception of a very small portion which undergoes a chemical change with phosphate of potassa, making chloride of potassa and phosphate of soda. But we leave further discussion of this question for another occasion.

Phosphate of lime is obtained in large quantities from the bones, and is also found in all the other tissues of the body.

The other inorganic elements appear in such small quantities that it is somewhat questionable whether they are really essential constituents of the body, or mere accidental compounds.

2. Of the organic proximate principles there are two classes, the nitrogenous, and the non-nitrogenous. We will consider the latter class first.

a. The non-nitrogenous proximate elements, said to be obtained in an analysis of the body, are sugar, starch, and fat. They are composed of hydrogen, carbon, and oxygen, and contain no nitrogen.

Some physiologists claim that the liver is a great sugar manufactory. Others claim that the sugar thought to be obtained from this source is the result of *post-mortem* changes. We will leave them to fight it out in their own way, since it is of no particular consequence which way the question is decided.

A few observers state that a very few small granules possessing some of the physical and chemical properties of starch are found in the brain. No function is assigned them.

Fat is found in abundance in all healthy persons. Some possess this element in greater proportion than others; but it is never wholly absent. It exists in the form of globules which are inclosed in delicate vesicles. Fat is taken into the body in the food, and is also formed within the system by a retrograde change of the tissues. Its uses seem to be to assist in maintaining animal heat by preventing its escape, to serve as a cushion for delicate parts—as the eye—to give rotundity and symmetry to the form, and, especially, by undergoing combustion, or oxidation, to serve as fuel in the production of heat.

Fat, as it occurs in the body, is of a compound character, being composed of oleine, palmitine, and stearine, fatty substances which require different degrees of temperature to render them fluid.

b. Nitrogenous or albuminoid substances differ from the preceding class in many important particulars. (1) In addition to hydrogen, oxygen, and carbon, they contain nitrogen. (2) They are all non-crystallizable. (3) They have no definite chemical composition. (4) They are hygroscopic; that is, they will absorb water and increase in bulk after being dried. 5. They possess the property of coagulating. (6) They have the power of exciting catalytic action, or catalysis—which is a process by which certain substances excite changes in others by their mere presence. (7) They are capable of putrefaction; and when undergoing this change, they will excite fermentation in fermentable substances, as sugar.

It is to these curious properties that many of the varied phenomena of life are due. The number of albuminoid substances in the body is very great. Almost every tissue and fluid possesses some compound peculiar to itself. The most important are albumen, fibrine, casein, ptyaline, pepsine, pancreatine, osteine, cartilagine, musculine, hematine, melanine, biliverdine.

Albumen and fibrine are found in the blood; and it is from these two substances

that all of the vitalized structures of the body are nourished. Albumen also occurs in the lymph, and certain other fluids. It coagulates at a temperature of 160° F. Fibrine coagulates spontaneously when removed from the body, and even when the circulation is arrested within the blood-vessels.

Casein is the albuminoid ingredient of the milk. It is almost identical in composition with albumen and fibrine. Cheese is made by its coagulation, which may be produced by acids, or by the aid of rennet.

Ptyaline, pepsine, and pancreatine are the substances which give to the saliva, the gastric juice, and the secretion of the pancreas, their characteristic properties.

Osteine, cartilagine, and musculine, constitute, respectively, the nitrogenous portions of bone, cartilage, and muscular tissue. Their properties are quite similar, the first two being less fluid than the last, which closely resembles albumen.

Hematine, melanine, and biliverdine, are coloring matters; the first, of the red blood corpuscles, the second, of the iris of the eye, the hair, and the skin, and the third, of the bile. The urine also contains a peculiar coloring material called urosacine.

We will again refer more particularly to the properties of these several nitrogenized compounds when treating of the different tissues in which they are found.

The nature of this chapter has been such as to scarcely admit of illustration. The succeeding chapters, however, will be abundantly illustrated.

A DISTINGUISHED Paris physician says: "I believe that during the twenty years I have practiced my profession, 20,000 children have been carried to the cemeteries, a sacrifice to the absurd custom of exposing their arms. Put the bulb of a thermometer in a baby's mouth and the mercury rises to 90 degrees. Now carry the same to its little hand; if the arm be bare and the evening cool, the mercury will sink to 50 degrees. Of course all the blood that flows through these arms must fall from 10 to 40 degrees below the temperature of the heart. Need I say, when these currents of the blood flow back to the chest, the child's vitality is more or less compromised? And need I add that we ought not to be surprised at its frequent recurring affections of the tongue, throat, or stomach? I have seen more than one child, with habitual cough or hoarseness, entirely relieved by simply keeping the hands and arms warm.

Treatment of the Drowned.

DEATH by drowning is one of the most frequent modes of accidental death, as it is also a common means adopted by the maniac or the hypochondriac for suicidal purposes. There can be little question that if the proper remedies were intelligently applied in many of the cases of supposed death from this cause, restoration might be affected, even after the lapse of a considerable period of time; and no doubt many persons have needlessly perished who might have been saved by a little timely attention.

In all cases of asphyxia, from whatever cause, the chief remedy is, of course, artificial respiration. To effect this, a great many ingenious methods have been devised. Inflation of the lungs by means of a pair of bellows, or by forcing air into them by blowing through a tube, were among the first means employed in attempts to resuscitate drowned persons. This is a very rude and inefficient means, though sometimes successful. The interrupted electric current has also been employed in various ways, and with some success; but this remedy is rarely at hand.

The most famous method is that proposed by the celebrated Dr. Hall. It consists, briefly, in laying the patient with his face downward, his arms folded beneath his forehead, and then slowly rolling him upon his side, restoring him again to his former position. By this means, the chest is alternately compressed and expanded, thus imitating the movements of respiration. This method has been variously modified.

Another method more recently recommended is alternate and regular elevation of the arms above the head, and restoration to the sides of the body. This is a very efficient means if skillfully applied. It may be supplemented by compression of the sides of the chest with the expiratory movement.

But the method which is illustrated in the accompanying engravings possesses certain points of excellence which render it superior to any we have before noticed. We copy the directions from a little circular which has been prepared for general distribution by the Michigan State Board of Health, who have kindly furnished us with the illustrative cuts.

TWO THINGS TO BE DONE:

1. RESTORE BREATHING; 2. RESTORE ANIMAL HEAT.

RULE 1.—*Remove all obstructions to breathing.* INSTANTLY loosen or cut apart all neck and waistbands: turn the patient on his face, with the head down hill: stand astride the hips with

your face toward his head, and, locking your fingers together under his belly, raise the body

Fig 1.

as high as you can without lifting the forehead off the ground (Fig. 1), and give the body a smart jerk to remove mucus from the throat and water from the windpipe: hold the body suspended long enough to slowly count ONE, TWO, THREE, FOUR, FIVE, repeating the jerk more gently two or three times.

RULE 2.—Place the patient on the ground, face downward, and maintaining all the while your position astride the body, grasp the points of the shoulders by the clothing, or, if the body is naked, thrust your fingers into the armpits, clasping your thumbs over the points of the shoulders, and *raise the chest as high as you can* (Fig. 2) without lifting the head quite off the ground, and hold it long enough to *slowly* count ONE, TWO, THREE. Replace him on the ground, with his forehead on his flexed arm, the neck straightened out, and the mouth and nose free. Place your elbows against your knees and your hands upon the sides of his chest (Fig. 3) *over the lower ribs and press downward and inward with increasing force* long enough to slowly count ONE, TWO. Then suddenly let go, grasp the shoulders as before and

Fig. 2

raise the chest (Fig. 2); then press upon the ribs, &c. (Fig. 3). These alternate movements should be repeated 10 to 15 times a minute for an hour at least, unless breathing is restored sooner. Use the same regularity as in natural breathing.

RULE 3.—After breathing has commenced, RESTORE THE ANIMAL HEAT. Wrap him in warm blankets, apply bottles of hot water, hot bricks, or anything to restore heat. *Warm the head nearly as fast as the body, lest convulsions come on.* Rubbing the body with warm cloths or the hand, and slapping the fleshy parts, may assist to restore warmth, and the breathing also. If the patient can SURELY SWALLOW, give hot coffee, tea, milk, or a little hot sling [?]. Give spirits sparingly, lest they produce depression. Place the patient in a warm bed, and give him plenty of fresh air: keep him quiet.

BEWARE! AVOID DELAY. A MOMENT may turn the scale for life or death. Dry ground, shelter, warmth, stimulants, etc., at this moment are nothing,—ARTIFICIAL BREATHING IS EVERYTHING,—is the ONE REMEDY,—all others are secondary.

Do not stop to remove wet clothing. Precious

Fig. 3.

time is wasted, and the patient may be fatally chilled by exposure of the naked body, even in summer. Give all your attention and effort to restore breathing by forcing air into, and out of, the lungs. If the breathing has just ceased, a smart slap on the face, or a vigorous twist of the hair will sometimes start it again, and may be tried incidentally.

Before natural breathing is fully restored, do not let the patient lie on his back unless some person holds the tongue forward. The tongue, by falling back, may close the wind-pipe, and cause fatal choking.

Prevent friends from crowding around the patient and excluding fresh air: also, from trying to give stimulants before the patient can swallow. The first causes suffocation; the second, fatal choking.

DO NOT GIVE UP TOO SOON: You are working for life. Any time within two hours you may be on the very threshold of success without there being any sign of it.

In suffocation by smoke or any poisonous gas, as also by hanging—proceed the same as for drowning, omitting effort to expel water, etc., from windpipe.

In suspended breathing from effects of chloroform, hydrate of chloral, etc., proceed by Rule 2, taking especial pains to *keep the head very low*, and preventing closure of the windpipe by the tongue falling back.

The foregoing Method and Rules, devised and prepared by the *Commitee on Accidents, etc.*, being a modification of Rules furnished by Dr. Beech of Coldwater, and of those published by the Life Saving Society of New York, have been adopted and printed by the STATE BOARD OF HEALTH of Michigan, for distribution throughout the State, as a life-saving measure. Any communication upon the subject may be addressed to OFFICE OF STATE BOARD OF HEALTH, LANSING, MICHIGAN.

The Study of "Medicine."

BY RALPH E. HOYT.

THE following article, headed "Let the People Study Medicine," recently appeared as an editorial in the Chicago *Evening Journal*. I happen to know the writer personally, and must say that for a person of his conservative, not to say "old-fogyish," notions and surroundings, the article is decidedly good and unexpectedly progressive. That the people should become better posted in the science of human life ("medicine" is a misnomer) every health reformer knows full well. The writer plainly intimates that the usual manner in which physicians (of the drug school) deal with their patients, and designedly mystefy non-professional minds, is wrong in principle, and fraught with serious evils to society—which is true. If he would go a step further, and take the ground that the drug system itself is a stupendous fraud, and that the doctors who "treat" sick people by dosing them with "calomel," "salt," and other drug-poisons, are doing a thousand times more harm than good in the world, the *Journal* writer would strike the key-note of physical education. It is not so important what *names* are used in designating the countless poisons used by the champions of drugopathy, as that the people should learn to let such "remedies" alone, and use only such means as nature designed for the restoration of the sick. "A rose by any other name," &c. So a dose of calomel or salt, when administered under its plain, proper name, will prove just as pernicious to the human organism as if dealt out under some Latin term whose meaning is known only to the doctor or the druggist. Poison is poison, call it by what name you will. As to the lady patient who is being slowly killed by arsenic, her case is simply one in many thousands by which the beauties of drugopathy are strikingly illustrated.

But here is the article from the *Journal*:—

"A newspaper writer, who seems to be a philanthropist as well as a physician, advises the education of the people in the science of medicine as a means of averting and relieving much physical suffering. While nearly all the avenues of science have been opened to unprofessional readers, the subject of medicine in its relation to the physical organization of human beings is perhaps the least understood and appreciated. Two causes have directly tended to this deplorable ignorance. The first is the mysticism and orthographic difficulties with which medical science has been invested since the earlier ages, lumbered up with dead languages and heathenish technicalities, and so rendered one of the dryest and most depressing studies in the realms of science. The second is the universal disposition of mankind to let other people think for them, instead of investigating diseases, their causes and cure, for themselves. In most cases, this disposition has begotten such a confidence in some individual physician as amounts almost to infatuation, and when sickness comes into the house, the family doctor is looked up to with a sort of veneration, as if the issues of life and death, disease and health, were in his hands. Of the particular malady of the patient the family know little or nothing, but they have faith in the doctor, because he 'understands' such things, and they do not. If the doctor is a rogue, he will do what he pleases, and experiment on the patient and deceive the family to the full extent of his whims or avarice. If the sick one survives the treatment, the doctor gets the praise, and if death ends the disease and the patient, it is called 'the providence of God,' and the doctor escapes censure. Would it not be well, sometimes, to reverse things, and give God the glory of restoring the patient, and blame the doctor for the fatal termination of the illness?

"On the other hand, there are many physicians who so conscientiously devote all their skill to the task of subduing diseases and restoring their patients that their patrons have great cause for gratitude, and in such cases confidence is not misplaced and may increase without danger of infatuation. Too often, however, quacks and charlatans, by their social characteristics and one or two fortunate cures, establish medical reputations.

"In view of these facts, the suggestion that the people should receive the benefit of learning medical science in the common or high schools of the nation, is at least worthy of a thought. Geology, botany, and anatomy, are already studied with beneficial effects, just as grammar, chemistry, algebra, and foreign

languages, are taught, freed from much that bewilders rather than instructs, and leading youthful minds to a better knowledge of the useful in art, science, and social pursuits.

"If medicine ever does become a common study, it must at once be stripped of its verbiage, so that when salt is prescribed as a remedy it will be called by that name instead of 'muriate of sodium,' and calomel should no longer be known as 'hydrargyri submurias.' The age is advancing; it is a living age, and the dead languages may well be sparingly used in the practical affairs of a country whose native tongue is so expressive and well understood as ours.

"Besides the suggestion of the medical author referred to in the foregoing paragraphs, the writer has recently been put in possession of some facts which have a bearing upon this subject, and present new evidence in favor of the popular study of medicine. One of our learned and 'popular' physicians was called some time ago to see a lady who happened to be ill, with what disease this deponent knows not, but the doctor prescribed the use of arsenic in small doses, 'to be continued,' like a *Ledger* story. The lady has by no means been in feeble health for any great length of time, and is able to be about her house, take care of her family, and go in and out with comparative comfort. But she is not to be envied on this account. The doses of arsenic are continued, because to cease taking them would be to hasten her death, owing to a reason known by all medical men who are conversant with the effects of the mineral poison which her system is constantly absorbing. On the other hand, if she continues to swallow the arsenic, death must result from its use sooner or later. Already its serious effects are visible in her person, and there seems to be no method in the doctors' books or brains to give her a new lease of life.

"Now, had this woman known the nature and effects of the drug which the physician prescribed, is it possible that she would have submitted to its fatal tyranny? Would she not rather have borne the ills she had than have flown to others that she knew not of? What an argument is this for popular tuition in the mysteries of medicine! And what are we to think of a doctor who, under any circumstances, would treat a temporary disorder with a subtle and destructive remedy that must become a lasting terror to his patient?"

THE liberty to go higher than we are is given only when we have fulfilled the duty of our present sphere.

Leprosy in America.

WE usually think of this loathsome disease as a malady wholly confined to the torrid regions of the East; but it appears from recent developments that the scourge is already at our doors, in fact, has existed in some portions of our country for many years. It is said to be quite common among the Chinese of California, being perpetuated and propagated by the uncleanly and vicious habits of those people. But it is in Carraquette, a small province of New Brunswick, that this most hideous malady appears in its greatest proportions in America. This district is almost solely inhabited by French, the descendants of a colony planted there one hundred or more years ago.

These people are very exclusive in their social habits, and have intermarried to that degree that it is said that there are very few families in the district who can marry without a dispensation or special permit from the church officials, on account of relationship. They subsist largely upon salt fish and herring, and live in dirty hovels, entirely disregarding every sanitary law respecting cleanliness and ventilation. These unfortunate victims of a hopeless disease have an obscure and doubtful tradition that the origin of the plague may be traced to a party of shipwrecked sailors from Marseilles, who were infected with it. It is by many good authorities supposed, however, that it originated in their unwholesome habits of diet, their wretched dwellings, and the long continued disregard of both moral and physical law which they have practiced in close intermarriage.

The disease has become so prevalent that the government has found it necessary to erect a hospital for the especial accommodation of this class of patients; and in this lazaretto may be seen individuals of both sexes and all ages, from infancy to second childhood, exhibiting the disease in all its stages and phases. Although the authorities are very prompt in transferring to this living charnel house every person who exhibits the symptoms of the disease, it is found to be still on the increase, appearing often in children of apparently healthy parents.

The same form of leprosy which is found at Carraquette also prevails very extensively along the coast of Norway, among a class of people of similar habits.

Some maintain that the disease is not contagious, and that it can only be disseminated by hereditary transmission, never being produced *de novo*. These persons seem to forget, notwithstanding their learning, that all dis-

eases must have arisen spontaneously at first, since the first individual suffering from any given disease could not have received the affection by hereditary transmission from a healthy parent.

Physical Culture.

INFLUENCE OF EXERCISE UPON THE ORGANS OF THE BODY.

IT is a law of our being that use imparts strength and produces growth in all our bodily organs, hence we possess within ourselves the means of our own development.

This may as truthfully be said of the mental faculties as of our bodily organs, and so intimate are the relations of the different parts of our system, that we cannot increase or diminish the capabilities of any particular faculty or organ without affecting the powers of the whole.

The accident of birth is indeed independent of our volition, but the extent to which our minds may be cultivated, or the powers of the body developed, depends upon education.

One fact, at least, is well established, viz.: that the mind is *only* developed and the body *only* attains its greatest perfection by use.

When we speak of exercise, we mean the *enforced* use of the voluntary muscles. The primary effect of such use is upon the muscles themselves, producing first a destruction of tissue, thereby generating a certain amount of heat, and at the same time causing an acceleration of the blood in the inter-muscular veins, which in turn brings back renewed nourishment to replace the molecules destroyed; and not only so, but this destruction seems to create an aptitude for consumption in excess of the amount lost, and so the muscle actually grows in contractibility and volume.

Whether muscles grow by the development of new fibers, or the enlargement of old ones, is not well settled by physiologists.

Probably, however, they increase by both processes, and the blood-vessels supplying them proportionally enlarge.

This is not only true of the muscles brought into play in any given motion, but the effect is equally felt by their antagonists, so that we cannot enlarge one set of muscles without correspondingly increasing the size of those opposed to them, and thus the perfect symmetry of the body is preserved.

The second effect of violent muscular exercise is upon the circulation and respiration. In a state of repose, the bulk of the blood is in the veins, and as soon as pressure is made upon them by the contraction of the muscles, their contents are hurried on to the right chamber of the heart, and from thence to the lungs, and so back to the heart again, to be distributed throughout the system.

It is found by observation that the effect of "training," or the persistent use of gymnastic exercises, is to enlarge the heart and lungs both in size and capacity. Archibald McClaren, Superintendent of the Oxford Gymnasium, and author of "Physical Education," says: "One of the army officers sent to me to be instructed in gymnastics gained five inches in girth around the chest in less than three months."

That this growth is not explained by the mere enlargement of the pectoral muscles, is proved by the increased volume of air which the lungs are enabled to expire, as is demonstrated by the spirometer; and *post-mortems* abundantly show an increased capacity as well as size in the heart and large blood-vessels.

The lungs increase both in length and breadth, forcing the ribs outward, and the diaphragm downward.

It is for this reason that athletes and gymnasts are enabled to make prolonged and violent exertions without getting out of wind. The capacity of the heart and central arteries being enlarged, they can accommodate more blood. Their contractile power being increased by this new demand upon them, they are enabled to send on the current through the lungs with increased velocity, and these, by their greater capacity, are able to oxygenize the blood as fast as it is supplied to them, and so no congestion takes place, and no inconvenience is felt.

The normal capacity of the lungs of an adult male is about two hundred (200) cubic inches. It is computed that an enlargement of three inches around the chest gives an increase of fifty cubic inches of lung capacity. In how many cases of lung diseases would this fifty cubic inches make the difference of life or death to the patient? The average body of the adult male contains about eighteen pounds of blood. The average heart has a capacity of three ounces, so that to change the entire volume of blood in the body the heart must make ninety-six beats, which it does in less than a minute and a half.

In athletes, however, the capacity of the heart is much more than this; so that when one makes a violent exertion, that organ is not overwhelmed by the sudden influx of blood.

It is also computed that a healthy heart can exert a power equal to 13 lbs. at every

beat; and in very muscular persons, this is probably largely exceeded.

The mere statement of these facts demonstrates what an advantage this physiological increase in the size and power of the heart gives one in the emergencies of life, to say nothing of the ability to make great and prolonged exertions!

How many persons have succumbed to disease, or fallen by the way, when unexpectedly called upon to make some unusual effort, for the want of this heart power!

In my own practice, I have lately had a case which illustrates this remark: A young person, apparently in robust health, was taken sick with a mild fever, and, when seemingly convalescent, suddenly and unexpectedly died. On making the *post-mortem*, I found that the septum between the ventricles of the heart had given way in consequence of fatty degeneration, and hence the fatal result.

The death of the late Mayor of the city of New York was also a case in point. A slight, unusual exertion overtaxed the circulation, and death ensued. Nor is it to be wondered at that the heart gives way when its labors are so largely increased by some powerful effort, or as a consequence of febrile action, when we remember that a mere change in the posture of the body alters the pulse in a marked degree.

Dr. Guy found the average pulse of a healthy male in a recumbent posture to be 66 per minute; while sitting, it was 71, and standing, 81, and how often—as the result of febrile excitement—it will run up to the fearful altitude of 140 or 150 in the same time!

Thus we see that physical exercise not only enlarges and strengthens the voluntary muscles, but also develops those that are involuntary, and increases the capacity of the blood-vessels and lungs. Not only so, but it quickens all the bodily functions and stimulates all the excretions.

Dr. Edward Morgan (Oxford) states that when a person is violently exercising, the lungs eliminate three times the amount of carbonic acid gas that they do when in repose.

The secretions of the kidneys and bowels are largely increased by exercise, and its effect is still more marked on the cutaneous respiration.

In the light of these facts, exercise becomes literally nature's great physic, eliminating from the system the effete and poisonous matters which have lived their little span of life, and only wait to be carried, in funeral procession, out into oblivion!

If the latest theory be true, that the seat of volition and sensation is identical with the center of thought, it follows, as a physiological law, that the highest intellectual attainment is only possible where the physical powers are of the first order.

All human experience proves that exercise is a necessity of our being. Plato declared that "moderate exercise produced a good habit of the body," and Prof. Parkes has given it as his opinion that "a healthy man ought to take exercise equal to a daily walk of nine miles."

In the young, the muscles yearn for exercise, and the restlessness of youth is but an expression of this want.

In the report of the medical department of the British army for the years 1857 and 1858, it is stated that "the mortality in the army is as much due to the monotonous and inactive life of the soldiers as to their vicious habits and practices." The same report further says: "Among causes of death in the infantry, want of exercise and labor is a large one." For this reason, most of the great governments of the earth, ours excepted, have created gymnasia wherever they have had extensive barracks for soldiers, so that they might obtain abundant exercise when not engaged in active campaigns. It is a well-known physiological fact that the excessive accumulation of fat is a sign of bodily decay, and there are many cases on record where the muscular tissue has disappeared from want of use, and its place been supplied by fat, so that the limbs could not be voluntarily moved, even when the volition existed. The process of decay by fatty degeneration is much more rapid than decay by atrophy; hence, persons who live to an advanced age are always thin.

"One of the first objects of training" is to get rid of all superincumbent adipose, and the best way to do this is by exercise. Exercise, therefore, not only assists in purifying the blood of all effete substances, and hastening the supply to the tissues of healthful pabulum, but also of relieving the body of all superfluous matters which tend to obstruct or clog its movements.

Rational exercise not only develops and strengthens the body, but it has a chastening and subduing influence upon the mind, promoting serenity, and producing sleep. Diana was the goddess of chastity, and was represented by the ancients as a huntress, because they held that of all occupations hunting was best calculated to free the mind from impure thoughts, and excite in it a love for the good and the true.

The restlessness of a mind diseased is best relieved and subdued by exercise. So natural is this feeling that the insane at once resort to it, when laboring under great mental excitement, and those having charge of them,

both among the ancients and in modern times, have had recourse to and encourage it—not only as a means of diversion, but of cure in most nervous disorders.—H. L. BARTLETT, M. D., in *Sanitarian*.

Air, Pure Air.

THE article in the January REFORMER headed, Universal Suffocation, is too true for the health of the people. Since the cold weather came on, I have had occasion to enter many houses; and it was generally, yes, in almost every instance, the case that no signs of attention to ventilation could be seen. The closer they are shut up, and the less of the pure air of heaven is admitted to enter, it seems to be esteemed the better. Men advanced in age, who have led active lives out of doors, now having but little to do in the winter season, fill up the stoves with fuel, hover around them, and guard against the entrance of the least amount of air on every side, as they would guard against the entrance of the most deadly foe. The blood rises to the head and does not circulate well in the lower extremities; and while the brain almost boils, the feet grow cold, and a sense of chilliness comes over them, the remedy of which is to pour in more fuel and guard more closely every avenue through which their best friend, and most needed, could come in to their relief.

When the genial spring returns, they will perhaps wonder at their lassitude and want of vitality, after having taken such special care of themselves during the winter!

Tell them that they need air, pure air, to invigorate their bodies, and they will be perfectly unmoved by your appeal, or perchance they may consent to open a door into another room, the air of which has been confined for days or weeks, and consequently is loaded with impurity and is not fit to breathe. It is not the coldness of the air that we seek, but the purity. We want the air that has its due proportion of oxygen, such as we have in the freely moving element without; not that which has been shut up, breathed over and deprived of its oxygen, and filled with carbonic acid gas. Such air is deadly, though reduced in temperature to zero.

Some are found who will say, Yes, yes; when you speak of the need of a constant supply of fresh air; but they have no means provided in their houses for ventilation, their windows are not constructed so as to let down from the top; and there they rest the matter, not thinking it of sufficient importance to pay for a few minutes' work or a few dimes' expense, to have them prepared for proper ventilation. What wonderful indifference to a matter of such vital importance to themselves! Are not life and health worth taking a little pains to secure?

Read up, friends, on the laws of life and health; and when you have learned the truth, as all may, put it in faithful practice. Know that you cannot live without air to breathe; and also that the purer the air you breathe, the better your chances for life and health. Remember that the first precept of the "code of health" is, "Breathe pure air." But if you only hear and do not heed, do not, I beseech you, lay your sickness, sufferings, and premature death to the charge of Providence. After you have been for months and years committing suicide by robbing yourself of the vitalizing fluid, so abundantly supplied by kind Heaven, do not think it some strange and unaccountable providence that yourself or your nearest friends fall a victim to your disobedience to the known laws of your being.

R. F. COTTRELL.

Things that Should not Be Read.

PROTEST AGAINST LICENTIOUSNESS.

TRAVELING once upon a railway, I saw before me a respectable-looking man, with two sprightly boys, evidently his sons, of twelve and fourteen years. Upon the entrance of the inevitable "newsboy," this man bought three copies of a paper which (as I do not design to help to advertise what I condemn) I shall not name, and reserving one for himself, gave the others to his boys. All three were intently absorbed in reading them. A glance over their shoulders showed me that the paper was one of those which are wholly occupied with the pictorial illustration of the contemporary crimes and intrigues of the country. "How insane," said I to myself, "is the act and the example of this father!" As for my own conscience it would precisely as quickly have consented to steal thirty cents as to waste thirty cents of God's money (of which I was steward) in subsidizing the vile and mercenary press which was providing this moral garbage for unhealthy appetites. And had another man given these papers to my own boys, I should have resented it in some such terms as these: "You must regard my home as a species of vulture's nest, that you bring this carrion to feed my young."

The circulation of these printed and pictorial portraitures of the contemporary crimes of the land has assumed the dimensions of a monstrous and shameful nuisance.

Under the pretense of circulating current intelligence, newspapers have become little better than moral scavengers; only instead of hiding their loathsome gleanings out of sight, they bring them and deposit them upon our breakfast-tables, and in our parlors, as if for the mental pabulum of our families. Surely, the people do not consider! Let us suppose that there was an acquaintance daily visiting our houses, whose conversation should, in its staple, consist of the recitals of these crimes and misdemeanors, every one would

RECOGNIZE HIM AS A SCANDAL-MONGER,

whose presence would scandalize decent society. Why are the talking types more excusable than the talking tongue? Again: were some EUGENE SUE to weave into a work of fiction just such graphic portraitures of vice and lust as are displayed in these journals, every parent would see that that novel was no fit reading for youth. Why is the authentic criminal record, expanded with the prurient art of the reporter, any less poisonous? Because the events are true? But the very aim of the novelist's art is to make his creations *truth-like*, so that his highest possible skill only makes them approach in mischievousness these authentic and detailed pictures of actual crime.

FAMILIARITY WITH CRIME.

Let us suppose, again, that one should say to the parent: "That boy of sixteen (or fourteen) is a bright, precocious boy. He is already capable of a man's work. Let us procure him the place of a police judge, where his daily business shall be the exploration and dissection of crime and vice; where the ever-present and familiar objects of his attention shall be the monstrosities of moral leprosy which infest the city." Would not any parent, who is not insane, cry out: "May God forbid?" No surer way could be devised to debauch a vivacious and impetuous youthful spirit, to exhale "the dew of its youth," to make the character hackneyed, coarse, and hardened. Only the firmest principles, fortified by experience, good habits, and age, can safely subject themselves to such an ordeal. The upright magistrate, when lead by imperious duty to the inspection of crime, finds his protection especially in this fact, that he is in the path of duty. The righteous purpose is a prophylactic to his soul while moving amidst the pestilential atmosphere. He who rushes into it wantonly has no such safeguard, and may expect nothing but moral infection. But this is just what the journals we condemn propose for us and our children. They do all that pen and pencil can do to place the guilty and contaminating scene around us—to place us present at it.

Let the youth or the parent searchingly ask himself the motive for such reading. Does he wish to know how sin is committed, in order to be wiser? Does he wish to learn how house-breaking, swindling, or other phases of crime are carried on, in order to be prepared to practice them himself? If so, then

HE IS ALREADY A FELON IN HEART;

the depravation is already effected. Does he do it in order to become "acquainted with human nature?" I will show him a shorter and safer way to do that. Just read Mark 7:21, 22: "For from within, out of the heart of men, proceed evil thoughts, adulteries, fornications, murders, thefts, covetousness, wickedness, deceit, lasciviousness, an evil eye, blasphemy, pride, foolishness;" and 14:38: "Watch ye and pray, lest ye enter into temptation." There he has all that is wholesome to know about it in six lines. There are some things of which he who knows least is wisest, and among these things is the knowledge of the way to sin.

Do men desire to read of evil doings because they take pleasure in the guilt and misery of a fellow-creature? This is the opposite of that "charity which rejoiceth not in iniquity, but rejoiceth in the truth."

IF A MAN HATE SIN

For its own sake, as every one does who is not God's enemy, then it will be a grief to him to know or think of sin done by anybody. It will be a painful, instead of an attractive, subject of thought, because of his love for holiness, his love for God, and his love for his fellow. The right-minded man regards it as some misfortune to be obliged to know of any sin done by any creature; and to repeat the story of that sin causelessly is one phase of evil speaking. A man may commit the sin of evil speaking by detailing a charge which brings reproach on a fellow-man which is perfectly true, as really as by coining a falsehood against him. These truths should convince us that the desire to hear of crime causelessly is a trait of the malignity of our fallen nature. No Christian should do anything with it but fight it with all his might. He should strive to be like his Maker, who "is of purer eyes than to behold evil, and cannot look upon iniquity." This description of God's holiness by Habakkuk must, of course, be taken in a sense compatible with God's omniscience. But the Christian has no business to be omniscient; and of him the picture ought to be literally true.

It is apprehended that an honest search after the motives of this reading will show that the least criminal one is vulgar curiosity, the idle craving for coarse excitement. If the reader will dig down into his heart a little lower, he will probably

FIND SOMETHING WORSE;

The criminal craving for the gratification of some evil concupiscence in imagination, covertly, where the man is ashamed and afraid to do it in action, overtly. He is not quite ready to worship Baal and Astarte in an open grove, on the top of the hill, and in broad daylight; so he keeps a "chamber of imagery" in his heart to do it in. The best account of the matter then, vulgar curiosity or love of coarse excitement, leaves this scandal-mongering class of readers about the level of your Mexican rabble. These spend their leisure hours in watching cocks lacerate and kill each other, because their souls are so empty and coarse that some such brutal excitement is craved to evade *ennui*. The highly civilized American spends his leisure in gloating over the combats of some human brutes who strive to lacerate some heart. The cock-fighting is probably the less degrading of the two pastimes. A game cock is a nobler animal than a Bowery rough.—R. L. DABNEY, D. D., in *Christian at Work*.

Scarlet Fever.

BY J. H. GINLEY, M. D.

As the time is at hand when this epidemic is to be looked for as being more prevalent than in summer, we here offer a few suggestions for its management. It is not usually an intractable disease, as many suppose, but may be easily controlled, all other things being equal. Its first appearance is generally ushered in by chills, backache, red and glassy appearance of the eyes, with diffusive redness, accompanied by more or less fever, with bright red points, or crimson appearance of the skin. There is more or less headache, with soreness of throat, the latter symptom being the more dangerous.

The disease is of an eruptive character, generally showing itself first upon the external surface, the efflorescence gradually extending over the whole body. During the stage of incubation, there is shivering, lassitude, with increasing debility, and sometimes nausea, vomiting, delirium, stiffness of the neck, and soreness of the throat. The tongue is covered with a cream-colored coat at first, through which fine red points are seen protruding, the edges being of a bright red or scarlet color, but varying as the disease progresses. These white elevations increase as the coat diminishes; the whole tongue becomes clean, red, rough, and raw (strawberry color).

About the second day of the fever, the eruption begins to appear, usually upon the face and neck at first, finally covering the whole surface. This stage is frequently accompanied with convulsions, coma, or sleeplessness. The eruptions remain longest and most distinct where the skin is delicate. In children of dark skin the eruption is more tardy and less distinct than in those of light, and in those of scrofulous habits the disease often proves fatal.

The two most essential points which need looking after are, the character of the eruption and soreness of the throat. When the throat is severely affected, the eruption is sometimes not so distinct as when the disease is diffused over the body. In some mild cases, however, there are little or no throat affections, except a redness over the tonsils and pharynx. There is generally loss of appetite, constipation, or diarrhea.

In malignant cases there may be foul, sloughy ulcers, and acrid discharges from the nasal passages, thereby interfering with swallowing and respiration. The glands of the neck also become swollen, diarrhea sets in, the tongue becomes brown, dry, and tremulous; the pulse is feeble, and there is great debility; nature fast tends toward dissolution, and finally death closes the scene.

Nurses should be careful to change their clothes before visiting other families, as infection may be conveyed through the clothing. The liability to the disease diminishes gradually after the fifth year, and there is little or no danger after the fortieth year. It usually appears from nine to twelve days after exposure. It sometimes appears the second time. Sometimes, after diseases set in even more dangerous than the disease itself; these are earaches, dropsies, general or local, especially in those of scrofulous habits, who consequently possess but feeble reactive powers. Such cases will generally prove fatal unless great care is taken.

During the stage of desquamation, care should be taken to avoid exposures to cold draughts, but air should be freely admitted into the sick room at all times of day and night. Keep the room quiet and shaded, as there is generally intolerance to light. In mild cases but little treatment is needed except for cleanliness; but in cases where there is high fever, soreness of throat, tendency to delirium, convulsions, or sleeplessness, more active

measures must be employed to insure complete success.

Its course terminates favorably or fatally in from five to nine days. It is sometimes complicated with diphtheritic exudations in the throat, and in all such cases the treatment must be vigorous and decisive. Indeed, the beginning of all diseases is the time for heroic treatment in order to conserve the vital forces; whereas, at a later period, this must give place to that of a more passive nature. Keep the room cool, and cover lightly during the fever.

TREATMENT.

When the premonitory symptoms begin to appear, a general bath may be given for five minutes at 95° to 98°, taking care to cool down to 88° or 90° before coming out. If the patient is weak, unless this precaution is taken, the system, being relaxed, will be in condition to take cold, and thus the bath may prove a failure. The head should always be wet in cold water before going into any bath, to prevent congestion of the brain.

If there is great restlessness or wakefulness, a hot bath 100° to 105° for five to eight minutes will be of great service; or a full pack for twenty to thirty minutes will sometimes do better, if the patient is of a strong constitution. But if these conditions continue, give the spine a prolonged rubbing the whole length, first with hot wet cloths, then with cool or cold ones. This being prolonged from five to twenty minutes will generally secure the desired results. If the throat is sore, keep on wet cloths, hot or cold, whichever feel the best. These must be often changed. But if the danger increases, with diphtheritic tendency, apply ice to the throat, which will generally soon cut it away.

When the danger from febrile action has passed, nature is exhausted, and then rest, and not active treatment, is demanded. Be careful to give but little treatment while the eruption is coming out, as too much may enfeeble the vital powers and cause a retrocession of the eruption, and the case may terminate fatally.

If there is desire for drinks, cool water may be given, or bits of ice may be allowed to dissolve in the mouth, and be swallowed, or not, as the patient pleases. Lemonade may be used moderately, if desired.

Do not allow patients to go out too soon, as the condition of the skin during convalescence makes the body more sensitive to atmospheric changes. See that the bowels are regular; still it is not necessary to move them every day, especially in the latter stage of the disease.

Should there be much soreness of the bowels, give now and then a fomentation for from five to fifteen minutes, and also knead the whole abdomen gently after the manner of mixing dough for bread. This may be repeated each day for ten minutes, for a few days, or until the soreness is gone.

Sometimes there arises a disturbance in the bladder; here the kidneys are at fault. Apply a cold wet cloth to the bowels, and a hot one opposite on the small of the back, following down to the bladder. A hot sitz-bath at 100° will also prove beneficial. Should the brain become involved, lose no time in applying wet cloths, hot and cold alternately, for from ten to thirty minutes; then apply cool wet cloths. The fomentations may be repeated two or three times daily, or as often as the fever and delirium return.

Fomentations to the head may also be used once or twice daily for from five to fifteen minutes.

This treatment is objected to by some; but when giving medicine I never saved a case of inflammation of the brain; and since adopting the above I have lost but one out of many cases. I can recommend it with confidence; but care must be taken not to use it too freely, nor too long at a time, as hot treatment always tends to debilitate, therefore cool treatment should be taken afterward to prevent taking cold.

In inflammation of the brain, a great mistake is made in applying ice or very cold water, as by them the heat is driven to the internal structures, and a congested and paralyzed condition is maintained while the cold is being applied. It prevents free circulation; and when removed, there will be a severe reaction, and a consequent danger of increased inflammation of the parts; whereas, if heat is applied the inflammation is drawn out by absorption, and severe reaction is thereby prevented.

But if the design is to keep down morbid growths as in cases of tumors, cancers, croup, and diphtheritic membranes, apply cold water, ice, etc.

Allow but few persons in the room, and keep but one set of nurses if possible.

In most cases the wet-sheet-pack will be found the best sedative known, and it may be taken by the feeblest, as well as by the most robust, if properly given. It should be continued from fifteen to thirty minutes for feeble patients, and from thirty to ninety minutes for strong ones. In the case of very feeble persons, it is better to use no water on the body on coming out of the pack, but they should be wiped, followed by dry-hand-rubbings, until the skin is dry, and then

placed in bed to rest; but in the case of those of good reactive powers, the wet-sheet, wet-compress, pail-douche, or general ablutions, may be used with impunity, if desired. While the eruption is coming out, the treatment should be used with caution for fear of repelling it, and thus throwing it toward the internal organs.

Should after diseases arise, as dropsies, disease of the throat, ears, lungs, or kidneys, they should be treated as when arising from any other cause.

Let the diet be light, no meats or stimulating food, but instead, use nice toast, gruels, etc., until nature makes a demand for more solid food.

Carbonic Acid and its Fatal Effects.

THE success of a doctrine depends much upon the manner in which it is presented by its advocates; and scientific facts may sometimes fail to receive universal assent, for want of being forcibly put.

The necessity of a thorough ventilation of sick rooms is nothing more than what is taught by every well-informed and thoughtful doctor of medicine. Yet so far are the majority of physicians from putting their ideas on this matter in practice with any considerable degree of consistency, that it cannot be supposed they thoroughly appreciate the premises. I purpose, therefore, to put the subject in another form, to see if it cannot be presented in such a manner as to produce a more decided effect.

I start with the proposition that the most serious impediment to recovery in fatal cases of acute disease is the daily and hourly administration of fatal doses of carbonic acid gas; and the same treatment is the chief cause of the gravity of many cases which, without this poison, would be of mild form.

So little alive to this fact are a very large proportion of medical men that it will require copious and well-authenticated illustrations to convince them. And the difficulty will be rendered still greater by the errors in some of the domestic habits of physicians themselves.

I do not intend to enter into the subject of hygiene in general, or even the management of chronic diseases, but shall confine myself to the fatal or dangerous use of carbonic acid gas, so fearfully common in the treatment of acute disease. Let a person be attacked with no matter what form of acute disease, and in nine houses out of ten the doors and windows will be immediately closed to shut out draughts, and every step taken to retain the air of the room, and avoid any material change. Most houses are now built without open fireplaces, and are warmed by stoves, heaters or furnaces, which supply to parlors and bedrooms the air of the dining-room or the cellar. The lungs and the skin of the patient and attendants are constantly exhaling carbonic acid, and the lamps or gaslights are furnishing an additional supply, so that the atmosphere of the room is rapidly charged with it.

Now what is the effect of the inhalation of carbonic acid? The following bit of history will show what it does when inhaled undiluted: In the summer of 1872, a vine-grower, in the eastern part of France, having his vats partly filled with grapes, which had been pressed, and were already in the process of fermentation, had occasion to climb down into one of the vats. He had no sooner reached the bottom than he fell insensible. One of his sons followed immediately to assist his father, but dropped at once beside him, and another person going to their rescue shared their fate. They were with some difficulty all drawn up, but life was extinct. They were asphyxiated before they could save themselves, by the carbonic acid gas which had accumulated in a dense layer over the fermenting grapes.

Similar instances of immediate death from the inhalation of pure carbonic acid gas sometimes occur in wells which have been closely covered for many years, where the gas escaping from the soil slowly accumulates, and, having no current of air to aid its diffusion, gravitates by its weight to the bottom of the well, gradually displacing the atmospheric air. The man who opens the well, and, having put in a ladder, goes down into it, falls insensible before he reaches the bottom.

There are historic instances of slower death by the diluted carbonic acid of a close room filled with people—from that of the famous Black Hole of Calcutta down—which are so familiar to all medical men that they need not be repeated here. There can be no doubt that death in cholera is chiefly due to poisoning by carbonic acid. The blood corpuscles lose their power of taking up oxygen, and as a consequence we find the air of expiration containing oxygen alone, while carbonic acid accumulates in the tissues.

Having seen the effect of undiluted carbonic acid gas upon the healthy system, let us inquire what influence it has upon subjects of acute disease, when diluted to the proportion in which it is commonly found in an ill-ventilated apartment. I will present a very striking instance, taken from a paper on *The Causes of Typhoid Fever in Massachu-*

setts, published in the Second Annual Report of the State Board of Health of Massachusetts.

"A young butcher, between twenty and thirty years of age, was attacked with typhoid fever. He was a bachelor, and occupied a good-sized chamber, lighted by two windows, and having an open fireplace.

"The fever was mild, with daily febrile exacerbation, hot skin, thirst, slight diarrhea, and rose spots, with no violent symptoms. There was no indication for drugs. He was bathed two or three times a day with tepid water, and was allowed water freely, iced or not, according to his taste. The covering of his body was regulated by his sensations. A slight wood fire, just enough to insure ventilation, was kept in the fireplace, and one of the windows was raised a little.

"As soon as his family, who lived in the country, heard of his illness, two of them, a maiden aunt and a sister, came to the city to take care of him. They reached his house one afternoon, just after my visit. My patient was, as described above, comfortably sick, with a pulse about eighty, and without delirium. They were frightened to find their relative, who was sick with typhoid fever, so poorly cared for. Guided by their theory of the proper treatment of fever, they proceeded without informing me to reform matters.

"They pinned a blanket over each window so as to exclude the light, and closed the open window; they closed the chimney with a fireboard and set up an 'air tight' stove, in which they made a fire. In order to make him sweat, he was packed in blankets, and hot herb-tea was given him.

"When I called the next day, I found his room dark, and filled with a hot and foul atmosphere. The odor was of that offensive sort that sick chambers are too often charged with. But the greatest change was in the sick man, whom I had left so comfortable the day before. He was wrapped in blankets, his skin was dry and very hot, his tongue dry, his lips cracked, his eye wild, his pulse 120, and he was so restless and delirious that it was all his attendants could do to keep him in bed.

"His aunt said she came to nurse her nephew, and had found him with open windows, exposed to noise and currents of air, drinking cold water as freely as he chose, and taking no medicine. These evils she had endeavored to remedy, but in spite of all her efforts he had grown rapidly worse."

The physician states his conversation with the aunt, and his refusal to continue in charge unless everything was restored as it had been on her arrival. The windows were opened, the stove was removed, a fire made in the chimney, and the blankets were taken from the patient. He goes on to say, "I gave the sick man a tumbler of water, which he drank as if he were quenching an internal fire. All this they bore in silence, but when I called for a large tub, and made preparations for a bath, they remonstrated; a bath, and particularly a cold bath, would kill him.

"Remonstrances were unavailing, and my patient got a cool affusion by pouring water all over him. He was then put to bed, lightly covered, and soon went to sleep. By night his condition had considerably improved, and on the next day, twenty-four hours later, his fever assumed its previous mild type. His pulse was about 80, and his head tolerably clear. He made a satisfactory convalescence."

The case just related is a fair specimen of a very common malpractice, occurring every day, but escaping notice because the effects of carbonic acid poisoning are not often brought out in so bold relief. The gas existing in a small amount as a component part of the atmosphere, and insidiously accumulating in every inhabited room, we do not easily estimate its effects or the frequency of their occurrence, until we undertake its thorough removal; and it is by cases in which this has been successfully done that we can discover the terrible influence of this poison upon acute diseases.

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I need not multiply instances; but in all acute affections I have always regarded the means employed for a constant and thorough removal of vitiated air from the sick room as the most important of all remedial measures, and in grave cases as giving the patient many additional chances of life.

In support of my own opinion and practice, I have an opportunity of adducing the valuable testimony of Dr. C. R. Agnew, in the following letter from him:—

"At the breaking out of the late war I took charge of the State Volunteer Hospital, New York, and had about 120 beds in the north building of the New York Hospital filled with promiscuous cases of those who had become ill *in transitu* from receiving camps to the seat of war. . . . Among the pneumonic cases were several cases of double pneumonia, marked by very distressing, threatening, and intractable dyspnœa. They were treated as I had been taught to treat such cases by Swett, Alonzo Clark, Camman, and my other teachers, but the dyspnœa remained a most distressing symptom, accompanied by exhausting insomnolence. I ventilated the wards as well as I

could, and separated the cases as much as possible, but without beneficial result.

"Finally, I adopted the expedient of carrying the patients on litters into the open air and placing them at the south side of the hospital building, where nothing could obstruct the freest circulation of the atmosphere. The litters were all provided with good, thick, hair mattresses and enough of fleecy blankets to protect the patients. I adjusted to each litter a spirit lamp and funnel, so that a current of warm air could be made at will to play gently upon the feet of the patient, when his temperature was low or the day unusually cool. I sent an attendant to watch by one or two litters, provided with a parasol, with which to shield the patients occasionally from the sun. I sent the litters out in the early morning, and sometimes kept them out till after dark.

"The effect upon the condition of the patients was invariably favorable—there was marked relief of the dyspnœa within half an hour after the removal from the wards—and I firmly believe that I saved some cases of pneumonia that I otherwise should have lost; this was especially true of some cases of double pneumonia following measles in the adult. I invariably noticed that the recovery was quicker—the resolution went on with astonishing rapidity—and that there was a more vigorous play of the recuperative forces. I had similar experience with fever cases. Indeed, I followed the plan of carrying my sickest patients out of doors, and leaving the convalescents to take care of themselves.

"I ought to say that this practice extended through the summer and autumn and well into the winter."

Wherever we have the deadly influence of carbonic acid in the sick room, we have also an accumulation of organic matters which have been eliminated through the lungs and skin, which are unquestionably a dangerous addition to the air which is to be respired, especially in the case of zymotic diseases. We are not so well acquainted with the toxic properties of these excreta as of the carbonic acid, but for practical purposes it is sufficient to know that the measures which free the atmosphere of one will also get rid of the other. Or if diffusion is not all that is needed to dispose of the organic matter, carbolic acid will accomplish its destruction. —W. H. THAYER, M. D., in *Sanitarian*.

Go not near the precipice of temptation; the ground is deceitful, and a false step or a sudden blast may bring about your destruction.

Hints Toward Reform.

BY RALPH E. HOYT.

THERE is a good opening in Chicago for a first-class hygienic hotel or boarding house. In this city of over 300,000 inhabitants, there is nothing of the kind; yet there are very many persons and families here who live or desire to live hygienically, and who would gladly become permanent boarders in a well-managed hygienic home, where the dietary and all the appointments were in harmony with the principles of health reform. A suitable building can easily be secured for the coming spring, in almost any part of the city, at a reasonable rental, and if the house were properly managed, the proprietor of the enterprise could do a fine business and make money. Now who will come here and open such a place? To the right party I will render any assistance in my power, and guarantee a goodly number of boarders to start with.

Upon the death of a lady nearly one hundred years old, in England, recently, her favorite old trunk was opened by surviving members of the family, when it was discovered that all the medicines which had been prescribed for her by the doctors, she had deposited in that receptacle, instead of swallowing them. If every patient who happens to be afflicted with drug doctors would dump all the proffered poisons into a trunk, instead of putting them into the stomach, the world would be vastly better off, and instances of longevity, like the one alluded to, would become more frequent.

The "hard times" of the past few months have had a depressing effect upon smokers. I know a poor man in this city who is now obliged to limit his weekly expenditures for cigars to nearly the same amount that he contributes toward helping his wife support the family.

It is said that alcohol is "good in its proper place." Perhaps so; but its proper place is not in the human system. Scores of women and girls persist in wearing thin, cloth gaiters, without overshoes, amid the cold and snow and slush of a northern winter. As the result, every few months some such foolish creature falls into a difficulty that begins with a cough and ends with a coffin; and then the good minister tries to console the friends of the deceased, by assuring them that it is "a mysterious dispensation of Providence," when in reality it is only a "dispensation" of *thin shoes*, with no mystery in it either.

225 South Green St., Chicago, Ill.

The Health Reformer.

BATTLE CREEK, MICH., MARCH, 1875.

J. H. KELLOGG, M. D., : : : EDITOR.

Drugs, Dress, and Diet.

THIS unholy triad still continues its ravages among all classes of society. None are wholly exempt from the direct or indirect influences of these baleful agents; and every hour counts new victims of men, women, and children who are cruelly cheated out of their title to life, health, and longevity by some one of these three great enemies of the physical welfare of the race. We must not be understood as anathematizing *in toto* the proper use of drugs, the wearing of clothing, or the eating of food. Oh! no; we are guilty of entertaining no such ultra notions. We can think of a hundred good uses for drugs, even. Alcohol is certainly a capital agent to preserve dead snakes, toads, fishes, and other zoölogical and anatomical specimens. It also makes a valuable constituent of certain kinds of varnishes; and is often indispensable for combustible purposes in chemical laboratories. Tannic acid is quite as useful an agent in the manufacture of leather. Corrosive sublimate is unrivalled for its efficiency in spreading consternation among cockroaches, mice, and other household vermin. Strychnia and arsenic are also justly celebrated as rat-exterminators, and can be effectively employed in bringing to grief troublesome animals of larger size. Conium, aconite, and hyoscyamus, would probably make excellent fly poison. A little opium might be added to the mixture to relieve the pain of the insects in dying. Mercury makes fine mirrors, and iron is of almost universal utility in the various arts. Probably we might find some use for the rest of the list by sufficient expenditure of time and patience.

It is the abuse of these powerful agents that has hastened to the grave many a poor sufferer whose disease alone would never have been fatal. Probably there is not a physician in the land, who has relied upon drugs in an extensive practice, who cannot point to cases in which he is conscious that his medicines did harm. Indeed, some of the ablest physicians are now actually confessing that during the larger portion of their medical career their patients have recovered in spite of their remedies, instead of by their aid, when they have recovered at all. The worst forms of chronic disease are those which are the direct result of drug medication; and of these the hygienic physician sees more than any other. Torpid livers, from the use of calomel; torpid or ulcerated bowels, resulting from the use of purgatives; weak and dyspeptic stomachs, made such by drug medication; shattered nerves, from the use of narcotics; and ruined constitutions generally,—are the sad mementoes of a system of practice based on incorrect principles, and prosecuted with the most destructive agents.

We are hardly able to decide which is productive of the greater amount of suffering in the world, drugs, or fashionable dress. If we confine the proposition to the gentler sex alone, there can be no question; for follies in dress are so often the cause of the maladies for relief from which drugs are resorted to. But women are not the only sufferers from the dire effects of the numerous sins against nature which they commit in conforming to the dictates of fashion in the matter of dress. Through the function of maternity, they entail upon their sons, as well as their daughters, the accumulated evils of both dress and drugs—a two-fold blight. Puny specimens of humanity enter upon life with only half the necessary stock of constitutional vigor and vitality, and, consequently, only half the capacity for enjoying the blessings of existence. At the very outset of their career, they are saddled with an incubus which darkens and saddens the whole of their brief existence. But to make their case still worse, a torrent of nauseous, poisonous drugs, from Mrs. Winslow's soothing syrup to squills and ipecac, is constantly poured down their reluctant throats during the whole period from birth to adolescence, if their misery happens to be thus prolonged.

The third member of our trio is diet. We can hardly believe it necessary to call attention to the hurtfulness of such things as burnt grease, pepper, mustard, horse-radish, spice, vinegar, and pepper-sauce; or to remind the dyspeptic of the indigestibility of fried sausage, stewed lobster, old cheese, and sour-

krout; or to descant upon the atrocity of modern cooks in manufacturing such villainous compounds of lard, sugar, starch, and soda as are hidden under the name of pies, cakes, cookies, etc. It would seem to require vastly more effort to believe that such articles could be good food than to believe the contrary. We have said nothing of pork, a thing too unclean for Christians as well as Jews; nor of other flesh-meats with their liability to various kinds of disease and impurities. There are tea and coffee, also, the first in the long list of intoxicants. What little of the constitution is left intact by drugs and dress, gluttony and gormandizing are quite sure to demolish. And so the wreck is complete.

Alas! must the work of these destroyers go on unchecked? If so, what hope for future generations? Friends, rally to the succor of the race. Let us endeavor to turn aside this mighty tide of death and misery.

Wonderful Success.

WE are often asked by those who are for the first time investigating the merits of the hygienic system of living and of treating the sick, such questions as the following:—

Your theories seem to be very reasonable, but can you show practical results in confirmation of them? Do hygienic physicians ever have any of the "hard cases" to treat? or, if they do, are they successful? Drug physicians say that your method is good enough for certain cases, but that very sick people need powerful remedies; is this true? If not, why?

To answer all of these questions, considering fully the bearings of each, would require more space than can be given to the subject in this brief article; hence, we can only touch upon some of the more salient points.

And first, let us see about the practical results. Facts are the only test for any theory; and if they are confirmatory, they cannot be refuted. What does this criterion show for hygiene? We might present, almost without limit, evidences of unimpeachable character, to show the infinite superiority of the remedies employed by hygienic physicians over the drugs and poisons administered by those who have confidence in their efficacy. A few must suffice. Of course it would be unfair to institute a comparison between isolated cases treated according to the two systems. Such a comparison would prove nothing for either side. The only proper method is to compare the results of the practice of two physicians, each of equal experience in the use of his remedies, practicing in the same locality, at the same time, and with the same class of patients, one using drugs, and the other hygienic remedies. We have recently had the opportunity of making a comparison of this kind.

Our respected friend, Dr. O. T. Lines, who is well and favorably known by many of our readers, has for more than twenty years been in active practice as a hygienic physician and surgeon in the populous city of Brooklyn, Long Island. In the course of such a long and successful career, he has not failed to receive a liberal amount of patronage. During the last epidemic of diphtheria which recently occurred in New York and Brooklyn, he was met by a medical friend who felt somewhat vain of his strictly "regular" education and practice, and who has also been for some years in practice in a neighboring part of the same city. As they met, the first remark of the gentleman of the drug persuasion was an exclamation that in spite of his study and experience, he *did not know anything about diphtheria.* He declared that ALL HIS PATIENTS DIED. Dr. Lines had then treated upwards of one hundred cases of the same disease, and *had not lost a single patient.*

Here is certainly a very striking difference in results. How did the treatment differ? One choked and cauterized his patient, no matter how young or delicate, thus increasing the local irritation and the general excitement. The other checked the inflammatory process by cooling drinks and the external and internal application of ice. The first attempted to allay the general fever by dosing the patient with powerful and poisonous drugs. The second soothed the unnatural heat by tepid baths and packs. As the result, the first LOST ALL HIS PATIENTS, according to his own statement, while the second SAVED ALL. The city reports showed the average mortality from the disease during the epidemic to be forty per cent., or forty deaths

in every one hundred cases. Although Dr Lines continued his practice during the whole period, he had no fatal cases. The percentage of mortality would have been still greater but for the fact that all of the doctor's successful cases were included in the report.

We take great pleasure in recording an additional fact, stated to us by Dr. Lines, that although himself and Mrs. Lines, who is also a physician, had treated hundreds of cases in general practice during the year 1874, they found, at the close of the year, that they had not once been called upon to sign a death certificate.

Now if any physician who depends upon the healing (?) powers of drugs, with a practice as extensive, can present such a record for 1874, let him send it on, and we will publish it; and, if the facts demand it, modify our oft-expressed opinion of the common use of poisons as medicines.

A word in reference to the "hard cases." It is seldom that a skillful hygienic physician sees in his practice what are termed malignant cases, which are not uncommon in ordinary practice, unless he happens to be called upon to take a case which has been abandoned by a half dozen drug physicians as hopeless. The truth is, that most of these "hard cases" are such far more on account of the treatment than from any other cause. Under rational treatment, they rapidly assume a milder character. Hygienic treatment, and even no treatment but a cessation of bad treatment, has often saved the most desperate cases.

People who are dangerously ill doubtless need the most *efficient* treatment; but this is often passive, rather than active, being nothing but rest. Powerful poisons (called remedies) are just what very sick people do not need. Nature has enough to bear without additional burdens.

Hypercritical Hygienists.

THE pert school-girl, fresh from the seminary, often mortifies her friends and brings discredit upon herself by persistent and unseasonable efforts to correct the grammatical inaccuracies of her less cultured friends. Father, mother, aunts, uncles, and even grandmother, are made the victims of instant exposure and criticism if they happen to employ a plural verb form with a singular subject or use the past form of the verb for the perfect participle. Such youthful follies are easily excusable; for a little time and experience in society will soon correct them. Much more censurable is the overweening egotism which sometimes leads people who are old enough to know the folly of such a course to manifest the same propensity for criticizing, and denouncing as absurd, every form of expression which does not wholly meet their ideas of propriety, regardless of the soundness or unsoundness of the idea embodied in the phrase in question. Such examples are not infrequently brought to our notice; and we are sorry to see that there are some among the ranks of hygienists who seem to be afflicted with a chronic predisposition to exhibit their belligerent powers by vehemently attacking every medical phrase which does not strictly coincide with their views of medical terminology. Perhaps we should not attribute this fault—for such we think it is, and a grievous one—to excessive egotism in every case; in some it may arise from thoughtlessness, or from a misconception of the real issues at stake in the controversy between truth and error. We have been induced to speak on the subject by the fact that we often have been compelled to refuse to publish articles which were excellent in many respects, but spoiled by the author's hypercriticism and indiscriminate denunciation. On the other hand, we have been deprived of the valuable services of several talented writers who have feared to present their productions lest some inaccuracies of expression should be made the subject of criticism.

It cannot be denied that there are in common use, both by professional and non-professional people, many terms descriptive of disease and its phenomena which in the light of modern notions of disease are manifestly incorrect, when literally interpreted. It is quite possible that these forms of expression were at first molded by erroneous views of the nature of disease. The query often arises, Can hygienists consistently make use of such terms as "attack," "seizure," etc., in speaking of disease; as, an "attack of fever"? and ought such expressions to be tolerated in others? Now it is evident that if by the word

"attack" we imply an entity, the term is inadmissible; but if we merely use this as a convenient term for expressing the fact that a man was sick with a fever, then what serious objection can be made to it? We are of the opinion that such terms as those mentioned are now very rarely used in any other sense than the latter. No one at the present day regards disease as an entity. Hippocrates exploded that myth more than two thousand years ago. Why then, we ask, should we spend time in combatting the fossilized remains of heathen superstitions? It is admitted on all hands that the expressions in question are purely figurative. Only a few weeks ago, Dr. Austin Flint, Professor of the Theory and Practice of Medicine in Bellvue Medical College, made the following remarks on this point in a lecture before his medical class:—

"What is disease? It is not an entity; and yet, by our language in speaking of it, we imply that it is. We use these phrases for convenience; but we must regard them as figurative." Many other equally eminent teachers express the same views in their teachings and writings.

Suppose we should attempt to avoid all such expressions as those above referred to, what an uncomfortable amount of circumlocution would be necessitated. Instead of saying that a man had an attack of ague in consequence of exposure to malarial poisons, we should be obliged to state the fact something after this fashion: Mr. A having received into his system certain hypothetical microscopical organisms which, being unusable and obnoxious to his vital economy, must be expelled, his various depurating organs engaged in a vigorous effort to eject the theoretical germs which resulted in a derangement of his normal vital functions. A considerable amount of practice in this manner of expression might possibly enable us to attain a somewhat greater degree of brevity; but we fear our readers would still have reason to complain of prolixity.

But, further, suppose that we should attempt to expunge from the language every expression which cannot receive a literal rendering; what would we have left? Nothing but a few stiff, formal phrases and scientific terms. All the beauty and grace of literature and language would be annihilated. Indeed, it would be impossible to communicate a great share of those thoughts which now afford us the finest themes for conversation and discourse. Nothing whatever could be said of the mind or of mental operations.

If the same spirit of hypercriticism of which we have spoken were carried into physics and other sciences, we should be obliged to wholly change all our modes of expression with reference to external objects. Instead of saying briefly, Mr. C saw Mr. B, we should be required to say, The corpora quadrigemina of Mr. C's eucephalon received an impression through peculiar vibratory movements of the ultimate fibrillæ of the optic nerves, which were excited by certain undulations of an hypothetical ether, supposed to have been reflected from an association of molecules known as Mr. B.

If a man chanced to state that his finger was hurt by being cut, some captious physiologist might flatly contradict him with the assertion that there was no pain whatever in his finger, and that he was laboring under an hallucination, for the pain really consisted in peculiar vibrations of certain nerve cells in his sensorium, being incorrectly referred to the point of injury.

We trust none of our readers will suppose from the foregoing that we are hostile to accuracy of expression. No one admires scrupulous exactness more than we; but, in our opinion, principles are far more important than words, and, hence, we will not quarrel about mere forms of expression when the idea is evidently correct.

"For forms of faith, let wrangling bigots fight," etc.

Hygienic Dress.

THE N. Y. *Tribune* makes the following excellent remarks on this subject, which appear to us to be exceedingly sensible and timely; and we can see no reason why the plan of dress proposed should not be a decided advantage over the ordinary styles of dress. We hope that many of our readers will try it.

"The main points insisted on by the dress reformers are that the entire body shall be uniformly protected—the neck, arms, and lower extremities being as warmly clad as the chest and abdomen—and that the weight of

the clothing shall be so suspended from the shoulders and distributed about the person that it shall not hang from the hips. The simplest and easiest way of compassing these points is the problem to be solved, and we propose to throw out such hints as may enable any woman to solve the problem for herself without buying either patterns or information. A careful reading of Mrs. Woolson's book on Dress Reform will be of great advantage to all women who wish trustworthy advice on this important subject. After examining carefully the various patterns and garments proposed by dress reformers and trying repeated experiments to test their comfort and utility—for simplicity of construction, ease of making, washing, ironing, and economy of cloth, we prefer those modeled after Mrs. Everett's patterns; these any woman may make for herself.

"For the garment worn next the person, let the material be heavy, unbleached, English canton flannel; take the lining of a well-fitting dress waist and a neatly fitting pair of drawers for patterns. Baste together and try on, making such changes as may seem desirable, until the garment fits exactly. Then from this cut a pattern for future use. This style may be varied for those who need a full waist by making the fronts with yokes. Let the edge of the piece where it is gathered into the yoke be straight, but that gathered into the belt be curved, so that from top to bottom in the middle part of this piece it will be an inch and a half longer than on the front edge where the buttons are sewed. This form will give a graceful fullness to the waist. To the lower part of the belt sew the drawers, which are to be left open. This garment —indeed, all these under-garments—button in front. The sleeve is made after the style of a coat sleeve, and reaches to the wrist. When this garment is worn, the stockings may be drawn over the lower part of the drawers, and fastened to them by a small safety-pin, thus doing away with all compression by elastics.

"The outer garment is made in the same way, always omitting the yoke arrangement, having the drawers closed behind and buttoned neatly in front, forming a perfect protection to the person from cold and exposure. Of course this garment should be somewhat larger than that beneath it. The material should be of muslin, and it may be trimmed to suit the taste of the wearer. It is simply a blouse waist with a pair of close drawers sewed to it. Below the knee the drawers are gathered into a band in the Turkish style.

"In very cold weather, or by those whose circulation is feeble, a garment of knit woolen made in the same way as the other two, can be worn. The easiest way of getting it up is to buy the knit drawers and vests, and cutting off the lower part of the vest, sew the drawers to it about the region of the belt.

"It is easy to see that when the person is completely enveloped in these three garments, flannel skirts for warmth will be quite unnecessary, and may be entirely dispensed with. The hoop may be buttoned to the belt of the outer garment or attached to a thin waist, or hung from the shoulders by the ordinary suspenders. The overskirt may be a very light affair, as it is needed only for draping. Quilted skirts, felts, and all others heavily trimmed with folds and ruffles are deprecated. In all cases, the skirt of the dress should be sewed or buttoned to a waist. This may be of very thin goods (old dress linings serve the purpose very well), but it must not hang from the hips.

"It will be readily perceived that these changes in the underwear will not in the least affect the outward appearance of her who is wise to adopt them, except in giving natural fullness to her waist, perfect freedom to her movements, and a delightful sense of proprietorship in all those muscles which have so long groaned and withered under the compression and tyranny of the corset."

REFRESHING.—Says the *National Temperance Advocate*, a journal which stands in the front ranks of the temperance reform, opposing the use of tobacco as well as that of alcohol:—

"It is refreshing to see in some of the religious journals a vigorous testimony borne against Mr. Spurgeon's plea for tobacco, wherein he says he has 'felt grateful to God' and has 'blessed his name' for a cigar! The London *Christian World* says it could 'fill many columns with the letters it has received severely commenting on Mr. Spurgeon's remarks.' The Boston *Watchman and Reflector* regrets that he has 'made his name, if not the song of the drunkard, yet of the next akin.' These comments reveal the growth of an opinion adverse to tobacco and strong drink against which even a most popular and honored clergyman may not do violence with impunity."

Such omens of progress are truly refreshing, indicating, as they do, not only the advancement of anti-tobacco reform, but also a growing disposition to form and hold opinions independent of the sanction of either political or religious demagogues, which is always so favorable to reforms of every kind.

People's Department.

[We are constantly receiving letters from numerous appreciative friends who testify to the wonderful benefits which they have derived from a practical application of the teachings of the Reformer. Many of these relations of experience are very interesting and often instructive. Again, we not infrequently receive communications from friends who have as yet but partially investigated the doctrines we advocate. Some of these are somewhat controversial in character. Others seek further information on certain points. In order to give all a chance to speak, and also to afford our readers the opportunity of telling their experience and learning that of others, we have opened this new department.]

An Acknowledgment.—The following is from Rev. J. Zeigler, of Milesburg, Pa.; we admire its candor:—

"I am compelled by a consciousness of duty to make a few acknowledgments with regard to the monthly published by you, and which I subscribed for by the solicitation of an agent for the same. I have received it, and have read it with interest and much satisfaction, and, I frankly confess, not without material benefit.

"Whilst it is true that the position you occupy is extremely radical, it is equally true that any effort from a less radical platform would doubtless fail to accomplish anything. As it is, your readers are stirred by your zeal, and begin to examine themselves, which is an indisputable, as well as an indispensable prerequisite to divestment. If men would only consider themselves in the light of truth, they would find many dead branches which they might lop off, and be all the better for it; many overgrown and ponderous limbs too weighty for the trunk to bear and remain straight and vigorous.

"It is often said of us that we have become a nation of drunkards, on account of the deplorable extent to which intoxicants are manufactured, sold, and used among us. It is true. But it is equally true that we have become a nation of gluttons—a condition sure to impoverish both soul and body. As for myself, intoxicants and I have long since dissolved. Tobacco I have never used in any form, save to kill lice on condemned government mules; and what will kill a louse, will kill a man. Time and quantity only need be considered. Coffee I have given up during the last year, and less than half the former amount of meat has been used at my table; and all with the most gratifying results. My health is better than it has been for some time; for which, as for all blessings, and among them the wholesome lessons given by the Health Reformer, I am thankful to God."

W. L. Geiger, of Ashland, Ky., sends us the names of several of his friends to whom he wishes the Reformer sent. He accompanies his order with the following:—

"I was delighted with a late article in the Reformer on the hog; hope you will frequently throw such 'hot shot' into the enemy's line. I think that I could not lay out a few dollars to better purpose than to send the Reformer to such of my friends as will read it. I have been fighting here at fearful odds; but I have the consolation that the hygienic cause is steadily gaining ground and winning friends. Ignorance on the subject must be overcome by diffusing light among the people. Long-established and deeply rooted prejudices must be patiently met by a faithful presentation of stubborn facts and invincible truths."

The following is from a gentleman residing in Boston, Mass.:—

"I was much pleased, this morning, with the appearance of the Health Reformer, as it paid us its regular monthly visit, laden with a feast of fat things for the hungry, waiting souls. Among the items for the month, we find that the publishers of the Health Reformer are determined to raise their subscription list to 50,000. They offer to first-class canvassers, who will give their time to the work, a cash premium by which they can make from five to ten dollars a day. Never was there a more fitting opportunity, nor a better opening for canvassers than at the present time. During the past few months, there have been 45,000 copies of the Hygienic Family Almanac shipped from the publishing house, and scattered to the four quarters of the globe. Add to this 200,000 pages or more of Health Tracts, which have been distributed throughout the length and breadth of the land, and then you may make a very fair estimate of what might be accomplished by a live man or woman engaged in this merciful work. Never were people's minds so wrought upon by the subject of health as at the present time. If time and space would admit, I could give you testimony after testimony from individuals who have become interested in the subject of health, simply by reading the Health Tracts and the Hygienic Alma-

nac. I will mention one case, which may be of interest and encouragement to those engaged in this noble work. Some few weeks ago, while the Hygienic Almanac was being circulated in this vicinity, it fell into the hands of one who evidently knew how to appreciate its real worth; and having a desire to benefit her fellow-creatures, and especially her pupils, being a teacher in one of the best schools in Boston, she read and reread the Hygienic Almanac in the presence of the entire school, numbering several hundred scholars, mostly young ladies.

"I am acquainted with a man in this neighborhood who, while attending to his own regular business, obtained twelve subscribers in one day. And even now, in the midst of hard times, with but very little effort, he obtained seven or eight subscribers for the HEALTH REFORMER, in a single day. I see nothing to prevent a live, persevering, energetic canvasser from making from three to ten dollars per day. M. WOOD."

Such reports are eminently encouraging; and they well illustrate what an immense amount of good can be accomplished by one who is willing to enlist his interests in the work.

An Iowa friend sends us the names of new subscribers, but refuses to receive any premium, saying,

"I think the information received from the REFORMER is premium enough. I have read the journal almost from the first, and think that I have received benefit to more than five times the cost."

A Texas subscriber, in renewing his subscription, says,

"You can keep my name on the list as long as I can raise a dollar."

This is from a New York friend whose opinion is worth respecting:—

"I like the REFORMER the best of any of our health publications, regardless of price, and think it is constantly improving. Success to it and the cause it advocates."

A Mass. friend writes,

"I have read a good many health journals, and like the REFORMER best of all. I am glad you advocate religion along with hygiene—two essential benefactors, the sick need all the good and encouraging advisers, and all helps them on in the right road to prosperity."

Religion is as much a part of hygiene as is diet or exercise. Every faculty must be exercised to maintain perfect health—the moral as well as the mental and physical.

Here is a good sentiment from a gentleman in Michigan:—

"Thanks for specimens. Am much pleased with your reform publications. You have my best wishes for success in your *un*compromising warfare against *all* stimulants and narcotics. There is no middle-ground between right and wrong."

Our friend is right; there is no room for compromise between right and wrong, temperance and drunkenness, virtue and vice. The dividing line must be distinctly, sharply drawn; yet we will stigmatize no one, no matter how erroneous the doctrine he advocates. We deal with principles, not with persons.

A merchant of Eaton Rapids, Mich., thus expresses his opinion of the REFORMER:—

"I take eight papers and journals, and can do without them all as soon as to do without the HEALTH REFORMER. I cannot do without that."

From the promptness with which our thousands of old subscribers have been sending in renewals of their subscription, we may fairly judge that this gentleman is not the only one who cannot do without the REFORMER. We aim to make the journal indispensable to every one who has once seen it.

Another cordial indorsement:—

"Your position on the temperance question is on bottom facts. On all other points we are in cordial sympathy. So, long may the REFORMER wave."

A PIONEER.—"Every day of my life adds strength to my conviction that the people must all come to your principles. If not, the eternal and immutable principles upon which God has founded all his works must prove a grand failure. It is the knowledge of this truth that gives me such strong faith in the future triumph of the cause you have espoused. For twenty years my faith has been unwavering, and I am still hopeful that I shall be able, during the remainder of my life, to advance the interests of this cause of God and humanity. J. D. REED."

Our hopeful friend evidently looks at the bright side of the future. We confess that our hopes are somewhat less sanguine. We aim to benefit all we can, and we would gladly number the whole world in our ranks; but when we reflect upon the fearful odds against us, the great array of foes to be met and resisted, those cruel tyrants, appetite

and passion, and the inherited propensity for evil so often seen—when we look at all these, and then observe how slowly the wheel of progress moves, we despair of doing more than to gather in a few of the more thoughtful, candid, and intelligent. But of this we are sure, that if the long-looked-for millennium ever dawns upon this benighted world, it will be found that then our principles have gained universal acceptance. We will labor patiently in the present, and let the future show the results.

W. E. Stillman, of New York, sends us a very interesting description of how he left off using tobacco. He says,

"I began the use of tobacco while attending school at the age when boys think it adds to their manliness to puff a cigar or spit the highly colored juice of the weed on the snow. I used it very freely, putting a quid in each cheek, and smoking 'fine-cut' at the same time."

He finally became convinced that the use of tobacco was not only physically injurious, but a moral sin. With this conviction, he endeavored to abandon the habit. He says of this attempt,

"I tried the plan of leaving off by degrees, but found that was not leaving off at all; for before I had left off the last morsel, I would lose my resolution, and goaded on by appetite, would return to a more excessive use of it than before."

One day he was contrasting the filth of a tobacco-user with the purity of Heaven, when he was most forcibly struck with the vileness of the habit. The decisive moment had come. He remarks,

"The habit never looked so vile and disgusting as it did at that moment. Throwing the tobacco from my mouth, I made a solemn covenant with the Lord that if he would be my refuge, and assist me by his grace, I would never let another morsel of tobacco pass my lips."

He has never taken tobacco since, having wholly overcome the habit. There is nothing like faith and determination to enable a man to overcome bad habits.

EXPERIENCE VS. BUTTER.—"I read each number of the REFORMER with increasing interest, and feel grateful for the light received, especially in regard to sugar and butter. The latter I considered indispensable, in my case at least. As my appetite was quite poor, I felt sure that I never could eat enough to sustain nature without it. After reading your article in the October number, I resolved to make a trial, the result of which I give for the benefit of those who, like myself, thought a little butter could do no harm. In less than two weeks after giving up the use of butter, I began to feel better every way; and now I relish my food better, and feel stronger than for a long time. I gained the consent of my family to sell the golden butter which I had so carefully packed for winter use, and the money was laid out for apples; and not one of us regrets the exchange. A. BOSWORTH."

Cannot many others of our friends give us a similar testimony?

NOT SO FAR WRONG.—A friend in distant Dakota sends us the following interesting incident:—

"Some time since, a lodge of Indians were camped near my place, when they decided to celebrate their favorite feast, the most prominent feature of which is a roasted dog. They had slain their victim, and were preparing to dress it, when some pale faces approached. The old Indian who was performing the operation, knowing the prejudice that the pale face had toward their feast, began to justify himself, saying, 'Cookcoosh (pork) sechy (not good). Skunk (dog) washtach (very good).' Not that they did not like pork, for they love it dearly; but they prefer dog. When we take into consideration the habits of the two animals, I conclude that the Indian was not so far wrong."

"DON'T WANT IT."—A Maine doctor thus attempts to annihilate us: "The inclosed HEALTH REFORMER (!) says (or previous Nos.) that milk is unclean—therefore unfit for use—Unfortunate for mankind the Creator did not consult the concern before he thoughtlessly made cows and woman—I have ordered the publication stopped. *Don't want it.*"

The doctor's (!) paper is stopped, and still the "concern" flourishes, in spite of the diminution in our circulation. We never like to send our publications to those who are so blinded by prejudice that they cannot read correctly. We have never said that milk was "unclean;" neither have we said that it was "unfit for use." We have simply stated a few facts which were furnished to the world by scientific men and careful, practical observers. The doctor may have drawn the conclusion from these facts that milk some-

times contains impurities; which is undoubtedly true. Possibly he may have concluded, also, that milk which contained the germs of such diseases as typhoid fever, and other poisonous and excrementitious matters, was "unfit for food." This conclusion would certainly be a very natural one. But we are curious to know why the doctor should be so exasperated at us for telling him facts which every intelligent physician knows perfectly well. A recent number of the *Medical and Surgical Journal* contains a lengthy article on the subject of milk, which corroborates all of our statements by a long array of facts.

We are sorry the doctor should be so irreverent as to impute to the Creator any lack of wisdom in allowing this state of affairs. We think the wiser course would be to conform our habits to the existing circumstances, so as to avoid any threatened dangers. Milk is good food for calves and infants; and we have never said anything to the contrary.

WHAT CHILDREN CAN DO.—A lady in Ohio sends us an account of the results of the efforts of two little girls, the eldest eight years old, in selling health tracts from house to house in their neighborhood. Their father obtained $5.00 worth of tracts from our Office, and gave them the money which they received for them. The little girls were much delighted with their success. We have not room for the whole letter, but here is a portion of it:—

"What do you think the people did with their tracts? Did they put them among the waste paper? I don't know what all did with them, but I will tell you what one gentleman did with his. He read it himself, and then took it to a large manufacturing establishment, where he works, and gave it to his friends there, and they all read it, and and he and one of them sent for the HEALTH REFORMER, which they saw advertised on that tract. Some of those gentlemen ordered gem pans made, through the influence of that tract.

"Mabel sells first the tract about health principles. The next week she goes to the same houses and sells the one on pork; and the week following, one on tobacco. When she gets through with these she will send for some on tea and coffee and sell them."

Perhaps there are other little girls or little boys who would do likewise if their parents would give them an opportunity.

Questions and Answers.

ASCARIDES.—J. F. O. writes: "I and one of my children are much annoyed with ascarides or pin worms. Please prescribe for both of us."

Ans. This parasite usually exists in the rectum only, so that it is rarely necessary to resort to the use of any anthelmintic by the mouth. This should always be avoided when possible, on account of the injury to the general system which always results from the internal use of these remedies, though it may often be very slight.

Treatment. An enema of cold water, or of salt water, twice a day, for a week or two, will usually suffice to effect a cure. It is important that the bowels should be kept constantly free and regular, as the worms cannot exist where there are no impurities to harbor them. To effect this, eat very freely of fruits and unbolted meal. The anus should be anointed with sweet oil every night and morning. This will alleviate the disagreeable itching, and is said to be alone sufficient to effect a cure in many cases. Should these measures prove unsuccessful, add a grain or two of carbolic acid to the cold water enema. A little perseverance is sometimes required, and the treatment should be continued until the symptoms disappear.

PIMPLES AND KENNEDY'S MEDICAL DISCOVERY.—C. H. L., Pa., wishes to know, 1. What will cure pimples on the face caused by heating the blood in playing ball? Is taking Kennedy's Medical Discovery, which he thinks helps his blood. 2. If one plays ball a little, will it hurt one?

Ans. 1. The small pimples which appear on the face as the result of heat usually disappear in a short time, and require no particular treatment other than a daily general bath. Sometimes an external application of a solution of tannin in glycerine in the proportion of one part of the former to eight of the latter will cause them to disappear very quickly. Kennedy's Discovery does not purify the blood. Like all other drugs, it renders the blood impure. Pure water, pure food, and pure air are the only blood purifiers known. We advise you to discontinue the use of all drugs at once if you wish to gain or to preserve your health.

2. Moderate physical exercise is indispensable to health. Ball playing and many other athletic sports, which are rendered exciting by rivalry or emulation, are liable to become productive of great injury from the violent exertions which they provoke. Many a delicate youth has occasioned a fatal hemorrhage from the lungs by some severe, spasmodic exertion,

of a kind to which he was unaccustomed. A severe illness has often been contracted by ball players, by becoming chilled while thoughtlessly resting in the shade after a vigorous "run." It is a noteworthy fact that useful labor is about the best and safest means of exercise. Still we have no objection to sports when properly conducted.

INHALERS, MEDICATED VAPORS, COLDS, ETC.—L. J. L., Chicago, asks: 1. What do you think of inhalers and medicated vapors? 2. Can any one take cold if his system is in the condition in which it ought to be? 3. Are woolen stockings and thick shoes sufficient in winter without overshoes? 4. Is gaslight injurious to the eyes? 5. A neighbor of mine died of consumption after being a good health reformer for seventeen years. Ought she to have died in that way after so long a time of right living? 6. Is it better to sleep by a fire if the room is well ventilated?

Ans. 1. Inhalers and medicated vapors are deceptive, and worse than useless.

2. No. A person cannot take cold unless the circulation becomes disturbed; but all are more or less subject to taking cold when they expose themselves to foul air, extremes of temperature, and other conditions in which they ought not to be.

3. The sufficient amount of covering for the feet is that which will keep them as warm as any other portion of the body.

4. Gaslight may be injurious if improperly used. It should be mellowed by a porcelain or colored glass shade. The direct rays should not be allowed to fall upon the eye. In reading, allow the light to fall upon the page from the direction of the shoulder.

5. The fact that your friend lived seventeen years before dying of consumption is sufficient evidence of the benefit which she derived from health reform. We do not pretend that it is impossible for health reformers to die. We only claim that obedience to the laws of health will greatly decrease the liability to disease, and will often prolong for many years the lives of those who seem to stand upon the very brink of the grave.

6. A moderately warm room is not objectionable at any time, if it is well ventilated.

HEARTBURN, MEASLES.—W. H. B. asks: 1. How shall we treat heartburn? 2. How shall we treat measles?

Ans. 1. Heartburn is caused by the imperfect digestion of the food taken into the stomach. The remedy must, of course, depend on the cause of the indigestion. We would advise you to read our tract on "Dyspepsia." Follow the directions there given, and your dyspeptic symptoms will disappear. Frequent sips of cold water will usually give temporary relief. If this is unsuccessful, drink freely of tepid water until the difficulty is relieved, or vomiting produced.

2. The Hygienic Family Physician, for sale at this Office, gives full directions for treating measles, and all other common diseases. Price, 1.00, post-paid.

CHILBLAINS.—W. J. wishes to know the treatment for frost-bitten feet.

Ans. This common and very troublesome affection can be readily cured by the alternate hot and cold foot-bath, taken every night just before retiring. The remedy will need to be continued for a little time in old cases. Prepare two suitable vessels. Partially fill one with water as hot as can be comfortably endured. Place the same quantity of very cold water in the other vessel. Place the feet in the hot bath for two minutes. Transfer them quickly to the other vessel, allowing them to remain in the cold bath one minute. Repeat this process four or five times, ending by a dip in the cold water. Wipe the feet dry, and rub well. Add hot water to the warm bath sufficiently often to keep it up to the requisite temperature.

SOUR-KROUT—NERVOUSNESS.—J. G. W., Cal., inquires: 1. Is sour-krout made of cabbage healthful? 2. For several winters, when I sit by the fire for a few minutes, my feet and legs, and sometimes my hands and arms, commence to twitch so that I cannot read with any comfort. What is the best prescription for me?

Ans. 1. No. This article is usually rendered unwholesome by the condiments used in its preparation; and, in addition, it undergoes a kind of fermentation which still further unfits it for food.

2. Your difficulty is probably a slight nervous affection. When feeling as you describe, take a wet-sheet-rub at 90°, and go to bed for an hour afterward.

TOBACCO-HABIT.—L. N. L., Mich., says that he has been a slave to tobacco ever since his childhood. He wishes to know, 1. Can you perform a radical cure? 2. How long will it take?

Ans. 1. Yes.

2. Just long enough for you to make up your mind to never touch the weed again. Read the experience of a tobacco-user in the People's Department of this number.

Mrs. R. B. H.: We could not attempt to prescribe for your daughter without a fuller knowledge of her case.

W. M. S., Washington: Your friend will find an article on "Milk" in the number for December, 1874.

DIETETICS.

Is Proper Food Stimulating?

A CORRESPONDENT asks, "Is proper food, such as grains, fruits, and vegetables, stimulating?" This question has an obvious and very important bearing upon the subject of dietetics, and ought to be settled. We have often heard hygienists speak of wholesome food as being *less* stimulating than that which was seasoned with condiments and spices. This is true enough; but is it the whole truth? Is proper food stimulating in any degree? The answer depends on another question; viz., What is a stimulant? In the language of the books, stimulants are substances "which pass from the blood to the nerves or nerve-centers, and act on them so as to exalt nervous force." Or, as we would prefer to say, stimulants are substances which, when taken into the living system, occasion nervous excitement by their noxious properties. Now does proper food act upon the nerve-centers? Certainly not. Food is only acted upon; first, by the digestive organs, and afterward by the various other organs connected with assimilation. Does food occasion nervous excitement? Not unless it possesses noxious properties; in which case it is not proper food.

We might fairly claim that the foregoing is sufficient to settle the question; but, to render the matter still more obvious, we will consider the question a little further. Says the objector to our theory, will not a hearty meal, even of the most healthful food, enliven and invigorate a man who is languid and enervated by severe labor? Doubtless it will, if he is not too much exhausted; in the latter case, it may have a contrary effect. But this has nothing to do with stimulation. When a lady is overcome by the foul atmosphere of a crowded theater, and faints, she is carried to the open air, and is quickly revived. Does this prove that air or oxygen is stimulating? No. It only proves that it is essential to life, and supplies an important want in the system. The lady fainted because her blood had been imperfectly aerated by the poison-laden air of the theater, and, in consequence, the carbonic acid had accumulated until the life processes could no longer be carried on. Hence, they stopped, and syncope was the result. When taken to the open air, the purer oxygen soon replaced the poisonous carbonic acid in her blood, and the vital functions were resumed. We see no chance for stimulation here.

Again, observe the effect of pure cold water. How quickly a few sips will revive and strengthen the weary traveler whose parched lips, blood-shot eyes, and faltering steps a moment before attested his extreme exhaustion. Is pure water stimulating? No one will venture such an assertion. The sense of thirst was an expression of the want of the system for water. The blood had become thickened and thus unable to nourish the tissues properly. Every part of the body suffered, and every tissue and nerve was clamoring for relief. Relief came, the suffering organs resumed their functions, and the man was restored.

Precisely analogous phenomena occur when a hungry man takes food. His tissues have been worn and wasted by toil. Their functions become impaired, and they demand replenishment. The whole system unites in a call for food. This universal disturbance tends to increase the inability for exertion. Food is supplied. The demand is satisfied; the equilibrium is restored; each part returns to its normal action; and the man feels stronger, even before a particle of food has been assimilated. We see no stimulation here. Pure water, pure air, and pure food, are unstimulating.

Tea and Coffee.

NUMBER ONE.

SOON after the introduction of tobacco into Europe, in the sixteenth century, tea and coffee were also introduced; the first from China, and the second from the deserts of Arabia. Like tobacco, they rapidly won their way into general favor, although meeting with some opposition at first, and now we find them in almost universal use as beverages. In the few countries where they are not so well known as in this and most European countries, some sort of substitute is employed which possesses similar or identical properties. Thus in Mexico and Zanzibar, chocolate is employed; in South America, maté, or Paraguay tea, is the native beverage; and in Central Africa, the *kola-nut* furnishes the swarthy native with the means of gratifying what seems to be a taste common to every nation—the desire for stimulation.

Taking their cue from this fact, the advocates of tea-drinking have argued that a habit which is of such universal prevalence, a taste which is common to so large a proportion of the human family, must be founded upon some more substantial basis than mere caprice or fancy. The object of this article is to examine, carefully and candidly, the arguments for and against the use of tea and coffee

as habitual beverages. We invite the reader to consider the matter with as little bias as possible, and with a willingness to form his conclusion in accordance with the evidence produced, whether it be in opposition to, or in conformity with, his former practices.

We are quite well aware that the truth on any subject which involves interference with human customs, feelings, or appetites, can only be arrived at by a candid appeal to some acknowledged authority, as the exact sciences. It is to this source that we shall appeal for reliable information relative to the subject before us. Of the reliability of knowledge obtained from this source, we need hardly assure our readers, but will merely mention some of the crucial tests which have demonstrated its astonishing accuracy and thorough reliability.

Science enabled the mathematician, Leverrier, to compute the size and period of revolution, describe the orbit, and point out the location, of a planet, before unknown and unseen. Science spans the immense gulfs of space, and measures the distance to the fixed stars. Science, too, by its refinements, measures the speed of a golden ray of sunlight as it dashes through space; yes, even more; it compels that swiftest of all travelers, electricity, to record its velocity as accurately as an old-fashioned clock measures off the slow march of time.

But science can do more than this. It can take a handful of earth, and after a careful scrutiny, report to us the precise kind and quantities of its numerous components. And, still more wonderful, it points a spectroscope at the sun, and then tells us the constituents of that wonderful luminary. Even the distant nebulæ are forced to yield up the secrets of their constitution.

WHAT SCIENCE SAYS ABOUT TEA AND COFFEE.

This same remarkable arbiter has been investigating the properties of tea and coffee; let us see the result.

A chemist takes a pound of tea, submits it to the process of analysis, and finds that it consists of the following substances:—

Woody fiber, sugar, gum, legumine, fat, mineral matter, water, tannic acid, aromatic oil, and theine. The woody fiber, gum, mineral substances, and water, all quite innutritious, constitute one-half of the whole; caseine, sugar, and fat, together make about three ounces; while the remaining five ounces are made up by three distinct poisons, tannic acid, aromatic oil, and *theine*. Of the constituents of a pound of tea, then, less than one-fifth can possibly be nutritious; one-half is wholly useless, and nearly one-third is actually *poisonous!*

Submitting a pound of coffee to the same examination, the chemist finds four ounces of fat and legumine; eleven ounces of woody fiber, gum, water, and mineral matter, which are of no nutritive value; and one ounce of *poison*, consisting of tannic or caffeic acid and caffeine or theine.

Although quite dissimilar in their physical apperance, one being a leaf and the other a berry, it will be observed that there is a very marked similarity in the composition of tea and coffee, the principal difference being in the different proportions of the constituents.

Another feature is worthy of observation; viz., that the proportion of either article which could possibly be considered in the least degree nutritious is exceedingly small in proportion to the whole bulk. This would at once justify the conclusion that tea and coffee are articles which are used for some other purpose than that of nutrition. They cannot be considered foods, in the ordinary sense of the term; at least, this is the uniform declaration of all authorities in matters of diet, and all writers upon the subject of food. We are by this fact led immediately to the inquiry,

WHY DO PEOPLE USE TEA AND COFFEE?

As just shown, neither of the articles in question contains sufficient nutriment to make it of any value as food, provided the whole substance was eaten; but when we consider the fact that only the infusion is employed, and that this does not contain the only portions which are at all nutritious, they being insoluble and remaining in the solid residue, we are still more forcibly impressed with the conviction that there must be some peculiar, though innutritious, property of tea and coffee which enables them to wield such a fascinating influence over so many millions of the human race. The element which should most naturally attract attention is the *theine* or *caffeine*, since it is a substance peculiar to the few articles which possess the properties of tea and coffee. Science gives us unmistakable evidence that the peculiar properties of these two articles is wholly due to the presence in them of a substance which is called *theine* in tea and *caffeine* in coffee, although its properties and composition are identical whether derived from one or the other source. By a process of careful manipulation, known only to the chemist, the tea leaves or coffee berries are made to yield this substance as a white, crystalline solid, which is bitter to the taste, and is possessed of actively poisonous properties.

Is it true, then, that people drink tea and coffee because they contain poison? We can come to no other conclusion; but we shall revert to this point again.

The habitual tea-drinker will doubtless be startled at the declaration that the so-called virtues of the beverage are due to a narcotic poison, and will be loth to admit so unpleasant a truth. The elderly matron will declare that she drinks tea to steady her nerves and enable her to bear with fortitude and patience the thousand and one vexations and annoyances of life. The young lady wants it to combat the lassitude which is occasioned by indolence and the indulgence of fashionable and enervating habits. The minister thinks he requires it in order to give him the requisite animation and vivacity to interest his congregation. The student drinks it to enable him to prosecute his studies during the silent hours of the night, when nature would otherwise rebuke his short-sighted ambition by closing his eyelids in sleep. The poor needle-woman, toiling laboriously for a pittance, resorts to a cup of tea to stimulate her flagging energies to accomplish that which would otherwise be impossible, from sheer exhaustion. The weary laborer sips his evening cup to soothe his tired muscles, and make him forget his poverty and toil. But a large number of those who use the beverage do so from mere force of habit, or simply because they think they "feel better" when using it than when abstaining.

A writer in the *Atlantic Monthly* remarks, "Next to tobacco and alcohol, tea and coffee have supplied more of the needed [?] excitement to mankind than any other stimulants." "Many sober minds make tea the *vis a tergo* [propelling force from behind] of their daily intellectual labor; just as a few, of greater imagination or genius, seek in opium the spur of their ephemeral efforts."

TEA AND COFFEE MEDICINES OR POISONS.

It has already been remarked that the active property of both tea and coffee is *theine* or *caffeine*, a narcotic poison. But is it possible that the effects of its use, which have been noticed, are the result of poisoning? Is it not also very improbable that the whole world should be so foolish as to indulge daily in a poisonous drink? In answer to the last objection, we need only remind the reader that such is the strange inconsistency existing between the capabilities of human reason and human actions that men have long since ceased to make the absurdity of any habit or notion any criterion of its popularity. But now in reference to the effects of tea and coffee when used as beverages.

Why does the harrassed matron feel better able to endure the perplexities incident to the management of her household when fortified by a cup of tea or coffee? For the same reason that the accountant finds himself able to balance his accounts with accuracy when his trembling nerves and enervated brain are stimulated with tobacco or liquor. Why does the tired seamstress forget her weariness and exhaustion under the influence of a cup of tea? She is stimulated, just as the man who has toiled until completely overcome by weariness feels refreshed and ready for another task after swallowing a gill of rum. Why does the minister think himself better fitted to interest his congregation, under the influence of an infusion of tea leaves or coffee berries? Because he is stimulated by the poison which the beverage contains, just as is the minister who exhorts his brethren to the cultivation of piety and the practice of good works, under the inspiration of the "spirit" contained in a bottle of "Bourbon" or gin.

So in every case in which tea or coffee appears to produce a beneficial effect upon the individual drinking it; it is always stimulating in moderate doses. We see, then, that tea and coffee are, in reality, *medicines*. Is testimony called for? We can produce abundance of the very best; hear what Dr. Edward Smith, M. D., F. R. S., says on this subject:—

"We must not, therefore, regard tea as a nutrient in the sense of supplying material to maintain structure or generate heat by its own decomposition."

Speaking in another place of the innutritious character of Liebig's extract of meat, the same author remarks, "It should be classed with such nervous stimulants as tea and coffee, which supply little or no nutriment."

Dunglison's Medical Dictionary describes coffee as a tonic, which of course ascribes to it the properties of a medicine.

Headland, in his "Action of Medicines," says that tea and coffee are "sedative to the nervous system generally."

An abundance of similar testimony might be adduced, but this is sufficient to convince any one that the articles we are considering are medicines. But are not medicines useful? We have nothing to say here concerning the utility or *non*-utility of medicines, as such; but we can say without the slightest hesitation that a thing which is a good *medicine* is entirely unfit for *food*. People usually recognize this truth in their practice, taking medicines only when sick, as they well know that the same articles to which they resort when ill will make them sick if taken when well.

But we have a little further testimony on this point. Says Dr. Martyn Payne, LL. D., in his "Medical Institutes," "All our medicines are essentially morbific." Says Prof. St. John, M. D., "All medicines are poisonous."

Are not these testimonies suggestive? If tea and coffee are medicines, and hence poisons, should we not be led to mistrust that they are anything but suitable articles for daily consumption? But to still further confirm the position just suggested, we will give the following, which is a summary of the results of a series of experiments conducted by Dr. Bennet in the Physiological Laboratory of the University of Edinburg, and reported in the *Edinburg Medical Journal*, for October, 1873, more than one hundred experiments being performed on various animals:—

1. The effects of tea, coffee, cocoa, and chocolate, are due to the presence in them of *theine* or *caffeine* in tea and coffee, and of *theobromine* in cocoa and chocolate.

2. They are all *powerful poisons*.

3. They are indentical in physiological action.

4. In small doses they produce, *first*, Cerebral excitement; *secondly*, Loss of sensibility.

5. In large doses, they produce, *a*. Cerebral excitement; *b*. Complete paralysis of sensibility; *c*. Tetanic spasms and convulsions; *d*. Death.

6. They first increase, then impede, and finally *stop*, respiration.

7. They first increase, and then diminish, the heart's action.

As further evidence of the poisonous character of these articles, we will cite the fact that Dr. Smith, already quoted, in company with his assistant, once took an infusion of coffee made from two ounces of the berries, as an experiment. As the result, they both fell to the floor insensible, in which condition they remained for some time, so powerful are the poisonous properties of the article.

Dr. Dunglison says that *caffeine* or *theine*, in "doses of from two to ten grains, induces violent nervous and vascular excitement."

The reason why these violent results do not always follow the use of tea or coffee is that the quantity of poison is not sufficient to produce them; but the only difference is that a less degree of poisoning is experienced, the poisoning being porportionate to the dose. How near to fatal poisoning many people sometimes come may be determined by comparing the fact that, while every ounce of tea contains from nine to twenty-six grains of *theine*, it is not an infrequent occurrence among the wealthy for a cup of tea to be made from a half ounce of the leaves.

SEASONABLE HINTS!

Sanitarium.

SHARP, raw winds, with frequent storms and sudden changes of temperature, are characteristic of this month, and these vicissitudes of the weather, with improper living, give rise to influenzas, throat ailments, and rheumatic affections, together with gout in those who are habitual high livers, and neuralgia in persons whose nerves are shattered by dissipation or overwork. Malignant affections of various sorts also appear in those who have filled their systems with grossness by the use of pork, stall-fattened cattle, intoxicating liquors, and other unnatural and unwholesome articles.

A rigidly hygienic dietary, tepid ablutions, and wet-sheet-packs, are applicable to these diseases, as to all others which involve febrile disturbance. Local continuous applications of cold should be made whenever there is excessive inflammation with tendency to ulceration. One useful measure to prevent throat affections is to avoid breathing otherwise than through the nose. By inhaling the air through the nasal cavity it becomes somewhat warmed before reaching the throat and lungs, and so does not disturb the temperature of those parts. The pain of gout, neuralgia, and acute rheumatism, may usually be much mitigated by the frequent, but not continuous, use of hot applications. Hot fomentations, bags filled with hot sand, salt, or corn meal, hot bottles, bricks, etc., are all useful for this purpose. In some cases, however, cool applications are more grateful to the patient.

MANY a pie has cost an industrious man a hundred dollars. A human life has been frequently paid for an apple dumpling. True strength, real recuperation, comes from the digestion of nutritious food, and can come from no other source.

Literary Notices.

TEMPERANCE PUBLICATIONS.--The National Temperance Society have recently issued several new tracts and pamphlets, among which are the following:—

Shall We Use Wine and Beer? A Message to the Women of the Land. A Mother a Monster. The Duty of the Christian Church. Malt Liquors. The Woman's Crusade.

This society publishes more than three hundred varieties of books, tracts, and pamphlets, all of which deal with the temperance question in some of its various phases.

Items for the Month.

☞ A BLUE cross by this paragraph signifies that the subscription has expired, and that this number is the last that will be sent till the subscription is renewed. A renewal is earnestly solicited.

☞ The series of articles on "Tea and Coffee," begun in this number, is a republication from the tract on that subject recently published at this office.

PEOPLE'S DEPARTMENT.—This new feature of the REFORMER, begun in the present issue, will contribute a new interest to our journal. Shall we say, *Vox populi vox Dei?*

☞ The present P. O. address of Eld. James White, who is furnishing the important articles on "Bible Hygiene," is Oakland, Cal.

☞ To those who are expecting to receive the "Hand Book of Health" with this number of REFORMER, we would say that at present there are none bound. We expect in a short time to be able to fill all such orders.

☞ FIVE HUNDRED FIRST-CLASS CANVASSERS WANTED! The publishers of the HEALTH REFORMER are determined to raise their subscription lists to 50,000. They offer to first-class canvassers, who will give their time to the work, a cash premium by which they can make from five to ten dollars a day. For further particulars, send for our circular. PUBLISHERS.

Scatter the Truth.

MUCH time and labor have been expended in preparing for general distribution a series of tracts embracing the most prominent features of the health movement. One large edition was quickly sold, and a large revised edition has been prepared. Thousands are already circulating among those who need enlightenment upon the subjects of which they treat.

All cannot enter the field as lecturers, neither are all called upon to serve their fellow-men in the capacity of physicians; but all can do the cause and humanity good service as tract distributors. A small tract or pamphlet handed to a friend or a casual acquaintance, or dropped in a railroad car or waiting room, or laid upon the table of a hotel bar-room, may accomplish an inestimable amount of good.

Continue to send in your orders, friends, and tracts will be furnished you at very nearly the cost of publication.

Hygienic Boarding House.

WE are informed that a hygienic boarding-house has recently been opened by Mrs. H. H. Willmarth, 759 Monroe St., Chicago, Ill., on the "west side." Travelers should take a Madison or Randolph St. car, and should stop at Roby St.

We are glad to make this announcement, and hope that those of our hygienic friends who may find it desirable to do so will not fail to assist the enterprise by their patronage. Every city of any considerable size ought to be provided with a boarding-house or hotel where substantial hygienic fare could be obtained.

Agitate and Circulate.

THOUSANDS of those who receive the REFORMER as it goes out on its monthly mission are solely indebted to its teachings for the light and knowledge upon health subjects which they have received. Are there not many thousands, yes, millions, of persons in the land who are as totally ignorant of the glorious truths of health reform as were most readers of the REFORMER a few years ago? While this is undoubtedly the case, does not true philanthropy and charity demand that those who have received the blessings of health, and increased happiness through obedience to the laws of health, should be energetically engaged in endeavoring to place in the hands of others the knowledge which has proved of such inestimable value to themselves? No one will dispute an affirmative answer.

We invite our numerous friends to turn their attention to the work of agitating the subject of health reform upon a much more extensive scale than they have heretofore done. The country, especially in the cities, is filled with sick and suffering individuals who are longing and pining for the very assistance which we can afford them. Agitate, *agitate*, AGITATE this great subject. Call attention to it; get people to reading and investigating, and the candid will be convinced.

Circulate the truth, friends. Pay the debt of gratitude you owe the health reform by acquainting others with its truths.

☞ Mr. Wm. L. Geiger, Ashland, Ky., offers for sale farms, residences, and mineral lands in Kentucky and West Virginia.

ERRATA.—Several slight typographical errors occurred last month, corrections of which the reader will please notice. On page 52, first column, fourth line from bottom, read nephritis for "nepluitis." On page 59, near the bottom of first column, read *Chimie* for "*Chinese.*"